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सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board

ON

INDIAN RAILWAYS

FOR

1950-1

Volume I

PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI
PRINTED BY THE GOVERNMENT OF INDIA PRESS, CALCUTTA, INDIA
1952

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PRINCIPAL STATISTICS OF RAILWAY OPERATIONS DURING 1947-8, 1948-9, 1949-50 and 1950-1

I.—All Indian Railways

Items		All Class I, II and III Railways				All Indian Government Railways†			
		1947-8	1948-9	1949-50	1950-1	1947-8	1948-9	1949-50	1950-1‡
Capital at charge	(crores) Rs.	742·20	775·88	*813·07	**838·17**	674·29	703·12	727·18	**803·82**
Route mileage as on 31 March		33,984·88	33,860·85	34,022.29	**34,078·94**	26,209·64	26,422·40	27,172·10	**33,302·84**
Gross earnings	(crores) Rs.	183·69	234·12	*258·32	**264·61**	166·23	214·77	238·32	**262·57**
Total Working expenses	(crores) Rs.	163·94	184·06	*207·23	**214·35**	151·93	169·63	192·89	**212·67**
Operating ratio	per cent.	89·25	78·62	80·17	**81·01**	91·40	78·98	80·94	**81·00**
Number of passengers originating	(millions)	1,043·95	1,184·51	*1,255·26	**1,307·72**	929·08	1,061·35	1,138·47	**1,279·29**
Passenger miles	(millions)	33,649·09	38,817·19	*40,019·72	**41,709·60**	30,086·47	35,128·66	36,322·30	**41,197·24**
Earnings from carriage of passengers	(crores) Rs.	73·27	93·11	*95·25	**99·21**	65·10	83·91	86·04	**97·82**
Average earnings per passenger mile	Pies	4·18	4·60	4.57	**4·57**	4·15	4·59	4·55	**4·56**
Freight tons originating	(millions)	73·46	82·67	*91·58	**92·35**	65·68	74·42	83·44	**91·39**
Freight ton miles	(millions)	20,399·26	22,750·42	*25,464·68	**27,007·52**	19,250·99	21,639·83	24,207·86	**26,962·51**
Earnings from carriage of goods	(crores) Rs.	86·34	112·31	*135.69	**139·77**	79·18	104·18	126·67	**139·26**
Average earnings per freight ton mile	Pies	8·13	9·48	10·2	**9·84**	7·90	9·24	10·0	**9·91**
Total train miles	(millions)	157·01	167·55	179·42	**185·11**	139·68	150·05	161·27	**182·54**
Gross earnings per train mile	Rs.	11·70	13·97	14·68	**14·58**	11·90	14·31	14·78	**14·38**
Working expenses per train mile	Rs.	10·44	10·99	*11·78	**11·81**	10·88	11·30	11·96	**11·65**
Net earnings per train mile	Rs.	1·26	2·98	*2·90	**2.77**	1·02	3·01	2·82	**2·73**
Net earnings per mean mile worked	Rs.	7,989	14,647	*14,973	**14,494**	5,440	16,933	16,618	**14,721**

* Revised figures.

† Include statistics of lines worked by Indian Government Railways but exclude Indian Government portions worked during 1947-8 to 1949-50 by the Jodhpur, the Nizam's State and Saurashtra railways.

‡ Include figures for Bikaner State, Jodhpur, Mysore State, Nizam's State, Saurashtra, Jaipur State, Rajasthan, Dholpur State, Scindia State and Cutch State Railways, which have been taken over by the Central Government as a result of the Federal Financial Integration from 1 April 1950.

II.—Principal Indian Government Railways

The systems comprising the Indian Government Railways had been affected since 1938 particularly by the Partition in 1947 and the integration of the *ex*-States' Railways in 1950. The comparative figures below, therefore, refer only to the seven principal Indian Government Railways, *viz.*, the Bengal Nagpur, Bombay, Baroda and Central India, East Indian (except Narrow Gauge), Great Indian Peninsula, Madras and Southern Mahratta, Oudh Tirhut and South Indian Railways which have remained practically unaffected by these developments.

Items		1938-9 (Pre-war)	1939-40	1942-3	1944-5	1945-6	1946-7	1947-8	1948-9	1949-50	1950-1
Capital at charge	(crores) Rs.	606·92	609·40	554·50	561·26	568·41	574·67	604·74	630·59	644·69	**662·61**
Route mileage as on 31 March		23,173·08	23,130·77	22,342·93	22,350·87	22,356·41	22,363·05	23,076·10	23,183·08	23,480·74	**23,483·62**
Gross earnings	(crores) Rs.	73·98	77·63	117·71	152·38	160·40	149·45	157·42	197·52	219·05	**224·67**
Total Working expenses	(crores) Rs.	47·49	48·04	57·58	99·93	108·10	117·88	142·92	152·78	172·83	**175·47**
Operating ratio	Per cent.	64·19	61·88	48·92	65·58	67·39	78·88	90·79	77·35	78·90	**78·10**
Number of passengers originating	(millions)	355·26	349·05	387·35	597·02	675·39	752·03	902·26	974·93	1,039·63	**1,085·61**
Passenger miles	(millions)	12,588·13	12,321·12	15,612·28	24,917·30	27,518·55	27,910·13	29,012·57	31,840·91	*32,838·82	**34,090·40**
Earnings from carriage of passengers	(crores) Rs.	20·41	20·10	30·25	49·82	56·45	57·46	62·23	75·33	76·98	**80·07**
Average earnings per passenger mile	Pies	3·11	3·13	3·72	3·84	3·94	3·95	4·12	4·54	4·50	**4·51**
Freight tons originating	(millions)	64·91	68·87	68·58	69·29	70·72	67·23	63·90	69·76	78·73	**79·34**
Freight ton miles	(millions)	17,056·49	18,381 46	21,923·47	21,175·36	21,975·45	20,688·95	18,962·55	20,714·50	23,145·92	**24,486·97**
Earnings from carriage of goods	(crores) Rs.	48·52	52·16	71·17	77·21	78·81	72·65	75·34	97·92	119·50	**122·87**
Average earnings per freight ton mile	Pies	5·46	5·45	6·23	7·00	6·89	6·74	7·63	9·08	9·90	**9·63**
Total train miles	(millions)	135·38	137·45	117·24	119·00	127·63	134·29	134·70	137·86	146·97	**150·89**
Gross earnings per train mile	Rs.	5·46	5·65	10·04	12·81	12·57	11·13	11·69	14·33	14·90	**14·89**
Working expenses per train mile	Rs.	3·51	3·50	4·91	8·40	8·47	8·78	10·61	11·08	11·76	**11·63**
Net earning per train mile	Rs.	1·95	2·15	5·13	4·41	4·10	2·35	1·08	3·25	3·14	**3.26**
Net earnings per mean mile worked	Rs.	11,212	12,550	25,332	23,030	22,947	13,851	6,256	19,025	19,167	**20,402**

* Revised figures.

INTRODUCTORY NOTE

1. The Railway Board's annual report on Indian Railways is prepared for the financial year, *i.e.*, from 1 April of one year to 31 March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working, such as, general administration, financial results, improvements in, and additions to, rolling-stock, commercial and operating methods, recruiting, training and welfare of staff, and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and all other aspects of railway working.

2. For the information of those who are not conversant with the value of Indian currency and the units thereof, the following details are given:—

(*a*) One *lakh* equals one hundred thousand.

(*b*) One *crore* equals one hundred lakhs.

(*c*) One *anna* equals 1/16th of a rupee.

(*d*) One *pie* equals 1/12th of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

3. For statistical purposes, Indian railways systems are classified as follows:—

Class I.—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II.—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs.

Class III.—Railways with gross earnings of not more than Rs. 10 lakhs a year.

A detailed list of the railways in each class will be found in Appendix D of this Report.

The Saurashtra Railway which, on the basis of earnings, should have been included among the Class I Railways has been retained among the Class II Railways for purposes of the statistics compiled in this Report, as the detailed statistical information required to be reported by it as a Class I Railway has not been available.

4. Although not coming within the period covered by the present Report, a reference may be made to certain important changes in the Railway systems in consequence of the scheme of regrouping of Indian Railways. With effect from 14 April 1951 the Madras and Southern Mahratta, South Indian and Mysore State Railways have been integrated into the Southern Railway. With effect from 5 November 1951, the Great Indian Peninsula, Nizam's State, Scindia and Dholpur State Railways were combined to form the Central Railway, and the Bombay, Baroda and Central India, Saurashtra, Jaipur State and Rajasthan Railways to form the Western Railway.

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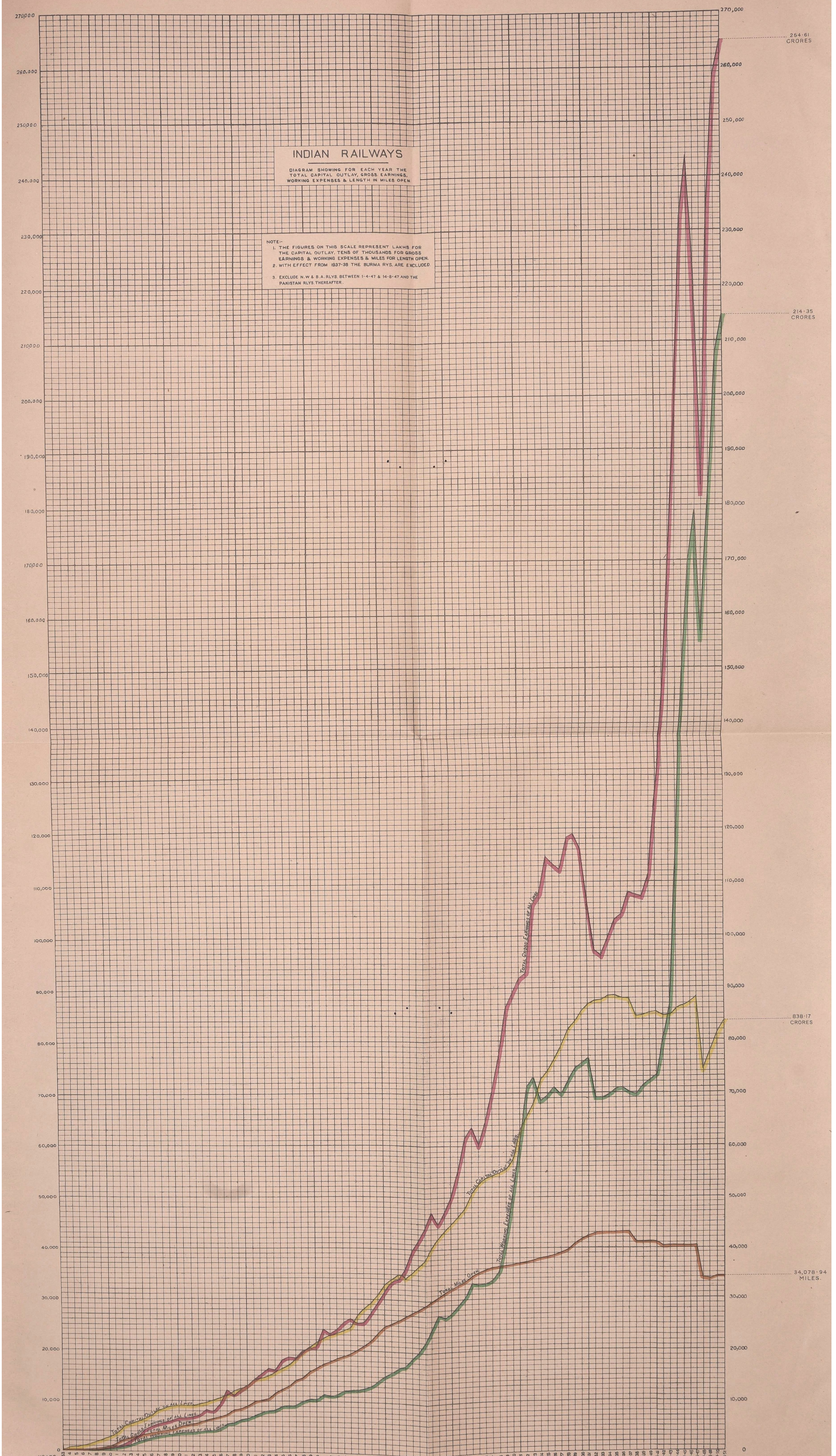

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Printed at the Survey of India Offices (P.L.O.).

CHAPTER I

GENERAL

1. General features of the year.—The year under review disclosed a substantial improvement in the standards of railway working and in the financial results. There were indeed certain set-backs, but these have not affected the volume of rail traffic and the earnings. The pace of improvement in railway operation observed in the previous year was fully maintained. The pressure to raise operational efficiency yielded encouraging results and under several factors significant advances were registered during the year.

The level of Railway earnings is determined by the volume of transportation handled, and this in turn is governed by the general economic activity of the country. The economy of the country was subjected to exceptional stress and strain during the year in consequence of the outbreak of Korean hostilities and natural calamities, such as, the Assam earthquake, floods, and failure of rains. As regards agricultural production, the year was one of mixed results, rather bad for *kharif* crops and comparatively better for the *rabi*. The decrease in both area and yield under foodgrains was partly made up by an increase under sugarcane, and under cotton and jute as regulated by the Integrated Production Plan. Industrial production was distinctly better. The output of electrical energy recorded a pronounced increase. There were substantial increases in the output of most industries, the improvement in that of cement, steel, salt, diesel engines, and electrical goods being particularly marked. Coal raisings touched a record figure of 32·32 million tons. The only recessions were in textiles, sugar, paints and varnishes, and machine tools. Foreign trade during 1950-1 was also better than the previous year. Total imports, although less than the previous year in quantity, were greater in value. Exports recorded a substantial increase both in quantity and in value. The general improvement in transport itself should be considered an important contributory factor to the enhanced business activity of the year. Equally important has been the maintenance of better labour-management relations in most industries, the major exception being the two-month old strike in the Bombay textile industry.

These features of the general economic situation in the country contributed to the improved results of railway working during 1950-1. Gross earnings of all railways attained the highest level so far recorded. Taking comparable figures of Indian Government Railways (excluding the Jodhpur, Nizam's State, Eastern Punjab, Assam and Narrow Gauge of East Indian) fresh records have been set up under many items—gross earnings, number of passengers originating, passenger miles, passenger earnings, tons originating, ton miles, goods earnings and train miles. Some of these figures have exceeded even those of the larger pre-partition railway system, namely, those relating to gross earnings, number of passengers originating, passenger earnings and freight earnings. These spectacular results, particularly against the background of the partial completion of the railway rehabilitation programme, have been rendered possible only by the unremitting efforts of railways to achieve greater operational efficiency and consequently enhanced capacity to handle additional traffic.

The principal features of railway operation as reflected in the statistics of the year are briefly commented upon in the succeeding paragraphs.

2. General review of working.—Gross earnings of all railways for the year 1950-1 amounted to Rs. 264·61 crores, an increase of 2·4 per cent over the previous year. The increase is generally to be ascribed to the additional traffic handled under both passenger and goods. The earnings from passengers on all Indian Railways increased by 4·4 per cent and the earnings from goods traffic by 3·2 per cent over 1949-50.

There were no major changes in rates during the year.

The gross traffic receipts[1] of Indian Railways amounted to Rs. 263·01 crores. After meeting all charges, including depreciation (Rs. 30 crores) but excluding interest charges, the surplus on the results of working for the year amounted to Rs. 47·56 crores. In terms of the revised Convention, the amount of Rs. 32·51 crores, representing the dividend of 4 per cent on the capital invested out of General Revenues in the railway undertaking, excepting strategic lines, was paid, leaving a balance of Rs. 15·05 crores which was allocated as follows :

	Rs.
Development Fund	10·00 crores.
Revenue Reserve Fund	5·05 „

Certain important statistics relating to the traffic handled during 1950-1 as compared with 1949-50 for all Indian Railways are given below :

PRINCIPAL STATISTICS OF WORKING OF INDIAN RAILWAYS

Items		1949-50	1950-1	Percentage variations
Number of passengers carried	(in millions)	1,255·3*	**1,307·7**	+4·2
Passenger miles	(in millions)	40,019·7*	**41,709·6**	+4·2
Earnings from passengers . . .	(in crores) Rs.	95·25*	**99·21**	+4.2
Average amount earned per passenger per mile .	Pies	4·57	**4·57**	*Nil*
Average miles a passenger was carried . . .	Miles	31·9	**31·9**	*Nil*
Freight tons carried	(in millions)	91·6	**92·3**	+0·8
Net ton miles	(in millions)	25,465*	**27,008**	+6.1
Earnings from goods carried	(in crores) Rs.	135·69*	**139·77**	+3·0
Average amount earned per ton per mile .	Pies	10·2	**9·94**	−2·6
Average mile a ton of goods was carried . .	Miles	278	**293**	+5·4

* Revised figures.

The comparative figures indicate that the volume of traffic moved under both passenger and goods was larger during 1950-1 than in 1949-50. Passenger miles during the year stood at 4·2 per cent higher than in the previous year, and the net ton miles increased by 6·1 per cent. The average lead of passengers remained the same as in the previous year, while that of goods increased from 278 miles in 1949-50 to 293 miles in 1950-1.

Passenger traffic in 1950-1 has set up a fresh record. On Class I Railways, excluding the Bikaner, Eastern Punjab, Assam and East Indian (Narrow Gauge), the passenger miles in 1950-1 amounted to 36,002 million as compared with 13,359 million in 1938-9, an increase of 170 per cent, the highest level so far reached.

Owing to changes in passenger classes during the year, it is not possible to compare precisely the traffic under various classes. In 1949-50 on Class I Railways the Third class accounted for 96 per cent of the total number of passengers and 93·4 per cent of the total nmber of passenger miles. The corresponding percentages in 1950-1 are 96·6 and 93·9 respectively of the total number of passengers and passenger miles. The proportion of the Third class traffic to upper class traffic has slightly increased as compared with last year.

The volume of goods traffic during the year on Class I Railways stated in terms of net ton miles, showed an increase of 6·51 per cent over the preceding year. Here also, the figures of Class I Railways, excluding the Bikaner, Eastern Punjab, Assam and East Indian (Narrow Gauge), have touched a higher level than ever before. An analysis of the movements during

[1] The difference between the gross traffic receipts referred to here and the gross earnings shown under principal statistics on page (i) is due to the inclusion of Suspense in the former.

the year shows the composition of goods to be 40·5 per cent under coal, 9·1 per cent under foodgrains and pulses, 2·1 per cent under oilseeds and 48·3 per cent under 'other commodities'. There has been no major change in the composition of goods traffic in 1950-1, as compared with 1949-50 except that foodgrains have decreased by 1·3 per cent and 'other commodities' increased by the same percentage.

Turning to the operating aspect, Indian Railways during the year have on the whole done better than they did in 1949-50. The performance during 1950-1 shows improvement under several factors of working.

The train mileage run during 1950-1 records an increase of 6·14 million or 3·84 per cent over the previous year. Taking the Class I Railways, excluding the Bikaner, Assam, Eastern Punjab and East Indian (Narrow Gauge), the train mileage on passenger and goods services exceeded the pre-war level by 5·14 and 18·0 per cent respectively.

During the year, there has been a slight deterioration in the punctuality of passenger trains on both broad and metre gauges.

As regards goods services, greater efficiency is reflected under several operating averages. As compared with 1949-50, the transportation effected by wagons per day, as shown by the net ton mileage per wagon day improved from 402 to 434 on the broad gauge and 180 to 190 on the metre gauge. The net freight carried per train also increased by 18 tons on the broad gauge and 6 tons on the metre gauge. The net ton miles per locomotive day both on line and in use show a good improvement on the broad gauge while there is little change on the metre gauge.

The average number of engines in use daily during 1950-1 rose by 1·95 per cent on the broad gauge and 3·79 per cent on the metre gauge as compared with 1949-50. The work performed by locomotives also reflects a general improvement. The percentages of engines under or awaiting repairs showed a slight improvement from 20 to 19 on the broad gauge and stood at 17 on the metre gauge, the same figure as during the previous year.

3. Railways and the Legislature.—The Railway Budget for 1951-2, as approved by the Standing Finance Committee for Railways was presented to the Parliament on 22 February 1951. The general discussion on the Budget proposals took place in the House on 27 and 28 February, and 1 March 1951, and the vote on Demands for Grants was taken on 7 March 1951.

General discussion on the Budget covered a variety of subjects. The more important of these were regrouping of Indian Railways, increase in passenger fares, amenities to Third class passengers, railway accidents, prevention of sabotage, housing of labour, reorganization of the Railway Board, dearness allowance to railway employees, rolling-stock position on railways, construction of new lines, restoration of dismantled lines, improvements in carriages and overcrowding in trains.

Twenty-six cut motions were moved to discuss general policy. These covered a wide ground, such as, inefficiency in administration, reorganization of priorities in allotting wagons on the Eastern Punjab Railway, regrouping of railways, retrenchment of staff on the Jodhpur Railway, corruption on railways, facilities to passengers and lighting arrangements on stations, recognition of trade unions, abolition of the Railway Board, recruitment, promotion and retrenchment of staff, delay in disposing of appeals of staff, accidents due to Canadian engines and excessive hours of duty of staff, running of trains to time, catering and vending policy, inefficiency and expenditure of Railway Administrations, conditions of travel, decision on recommendation of the Railway Joint Advisory Committee and general policy of running railways.

The cut motions after discussion were either withdrawn, or not pressed.

Out of total number of 3,518 questions asked in the Parliament, 228 or 6 per cent related to the Ministry of Railways. A wide range of subjects such

as locomotives, movements of wagons, passenger amenities, railway accidents, and new railway lines and projects formed the subject matter of discussions.

4. Standing Finance Committee for Railways.—The Standing Finance Committee for Railways had five meetings during the year. It scrutinized, as usual, the Government's proposals for Capital and Revenue Expenditure to be incurred during 1951-2 prior to their being placed before the Parliament.

These proposals included the construction of a broad gauge line between Mukerian and Pathankot on the Eastern Punjab Railway, the construction of the Pihij-Nadiad line, and the construction of a line from Chunar to Robertsganj on the East Indian Railway.

The Committee considered a number of other subjects as well. Among these were proposals relating to the eastablishment of a coach-building factory in India, purchase of locomotives, boilers and coaching stock, installation of a new power house and improvement to power supply at Dohad on the Bombay, Baroda and Central India Railway, investment by Railways in the proposed Orissa Road Transport Company, diversion of the South Indian Railway, broad gauge line from east of Singanallur to Coimbatore North, restoration of dismantled lines, and the development of broad gauge/metre gauge transhipment facilities at Sakrigali Manihari Ghats.

5. Central Advisory Council for Railways.—There were five meetings of the Central Advisory Council for Railways during the year.

Among the more important subjects considered at these meetings may be mentioned the policy relating to catering and vending contracts, and the Regrouping of Railways. The method of disposal of contracts for refreshment rooms, vendor's stalls, restaurants, etc., was left entirely in the hands of the Railway Board, to be dealt with in the best interest of the public, the only criterion being the quality of service. It was decided that tenders should be invited in any case of contracts for refreshment rooms, vendor's stalls, restaurants, etc.

The Council also accepted the proposals for the amalgamation of the South Indian, Madras and Southern Mahratta and Mysore State Railways as part of the general scheme of the regrouping of Indian Railways. They recommended that the new amalgamated railway should be named the *Southern Railway* in English, and *Dakshin Railway* as the Indian equivalent.

6. Local Railway Advisory Committees.—The recommendations of the Central Advisory Council for Railways in regard to the reorganization of the Local Advisory Committees made in October 1949 were implemented by the Railway Administrations during the year under review.

Sixty-six meetings of the Local Advisory Committees on various Indian Railways were held during 1950-1. The discussions at these meetings related to a number of items, the most important of which are enumerated below:

(1) revision of train timings, etc.;

(2) prevention of ticketless travel ;

(3) overcrowding in trains ;

(4) vending and catering ;

(5) prompt settlement of claims ;

(6) supply of drinking water to passengers ;

(7) opening of booking office windows, city booking offices, etc.;

(8) safety of passengers ;

(9) lighting arrangements in trains and station premises ; and

(10) additional facilities for passengers.

7. Amenities for the public.—Steps taken during the year under review to make rail travel more comfortable are detailed in Chapter VIII. Some of the salient features of what has been done are, however, indicated below:

(1) The major problem tackled during the year was that of reduction in overcrowding in trains. Considerable improvement was effected by placing in service 63 newly-built Third class all-steel coaches of improved design and the running of extra trains which included *Janata* Expresses between principal stations exclusively for Third class passengers.

(2) Separate Third class bogies for long distance passengers were set apart and this facility was appreciated and taken full advantage of by the travelling public.

(3) Better booking facilities, particularly for those travelling in Third class, were provided by keeping the booking office windows open at least an hour before the train was due. Continuous booking arrangements were also made at busy and important stations. Additional booking windows, city booking offices, out-agencies and new booking offices were also provided where justification existed.

(4) As an additional passenger amenity, advance booking by 24 hours of Third class passengers by certain trains was introduced. Improved amenities such as fans were also fitted in Third class coaches of standard design and 210 such coaches were put into service during the year under review. Fans were also fitted in certain waiting halls.

(5) Reservation of seats in Third class compartments to a limited extent on important trains was also arranged on major Railways on collection of a nominal fee of four annas per seat.

(6) Improvement in train and station lighting was also effected.

(7) The cleanliness of coaching stock and station premises was another aspect which received the close attention of the Railway Administrations.

(8) The question of safety of passengers, particularly of women passengers, was specially attended to.

(9) Considerable improvement was made in respect of supply of drinking water to passengers. Supply of electrically cooled water at certain important stations was found popular and the facility was extended to certain other stations also.

(10) New waiting halls with modern facilities were provided at a few stations and improvements were also made in the existing ones at a number of stations. Available waiting room space was utilized to the greatest extent possible by the abolition of Third class Zenana waiting rooms at stations where they were not being fully availed of. Steps were also taken to ensure that vendors and stall-keepers did not encroach upon the accommodation provided for waiting purposes.

8. Staff.—Certain developments concerning staff during the year under review are mentioned below:

The Joint Advisory Committee which was set up in May 1948 concluded its deliberations in the month of December 1950. In all it considered over 3,800 representations submitted to it by Unions and Associations of Railway employees as well as by individuals. The Committee framed 1,012 issues arising from all the representations and made suitable recommendations for the consideration of the Government. By the end of March 1951 orders of the Government had been issued to Railways on most of the recommendations of the Committee. The acceptance of the Committee's recommendations has benefitted a large number of employees and the monetary value of the benefit is estimated roughly at two crores of rupees per annum.

Meetings were as usual held by the Railway Board during the year under review with the All-India Railwaymen's Federation and the Indian National Railway Workers Federation. At their meeting held on 10 March 1951 with the Hon'ble Minister for Transport and Railways, the representatives of the All-India Railwaymen's Federation discussed their demands for the increase of dearness allowance and that the points on which the recommendations of

the Joint Advisory Committee or the orders of the Government of India thereon were considered by the Federation to be unsatisfactory should be referred for adjudication. The representatives of the National Railway Workers Federation also raised, among other points, the question of revision of pass rules, housing of staff, and regrouping of railways.

The question whether staff councils and such other bodies functioning on the Railways should be allowed to continue in their existing forms or be substituted by the Works Committees as provided for in the Industrial Disputes Act, 1947 and the Industrial Disputes Rules, 1947, remained under consideration during the year under review.

In pursuance of the orders issued by the Railway Board in 1948, 15,440 temporary posts were converted into permanent and 34,717 temporary staff were confirmed during the year.

The relations between the Railway Administrations and labour remained generally cordial during the year under review. The number of man-days lost on account of strikes during the year increased from ·004 per cent to ·121 per cent.

The total number of staff of all grades (Gazetted and non-gazetted) employed on the open lines of Indian Government Railways and construction increased by 44,786. The total cost also increased by Rs. 8,50,10,603. The increase in number and cost is mainly due to the implementation of the Adjudicator's Award on the former nine Government Railways.

During the year the work of equation of pay of the non-gazetted staff on the *ex*-States' Railways (except the Gaekwar's Baroda State Railway, for which a committee had already been set up) to Central Pay Commission scales was entrusted to the Central Railway Service Commission. Officers of the Indian Railways were co-opted as considered necessary while examining the question. The Railwaymen's Unions were also invited to forward to the Commission any representation they desired to make on the question of classification of grades. The Commission had furnished its recommendations by March 1951 in respect of all the railways except one. The Commission in examining this question gave due consideration to the decisions of Government on the recommendations of the Joint Advisory Committee.

During the year practically all the additional staff required for implementing the Adjudicator's Award had been recruited and fitted in working posts and duty rosters giving effect to the reduction in the hours of work and the liberalized period of rest had been introduced.

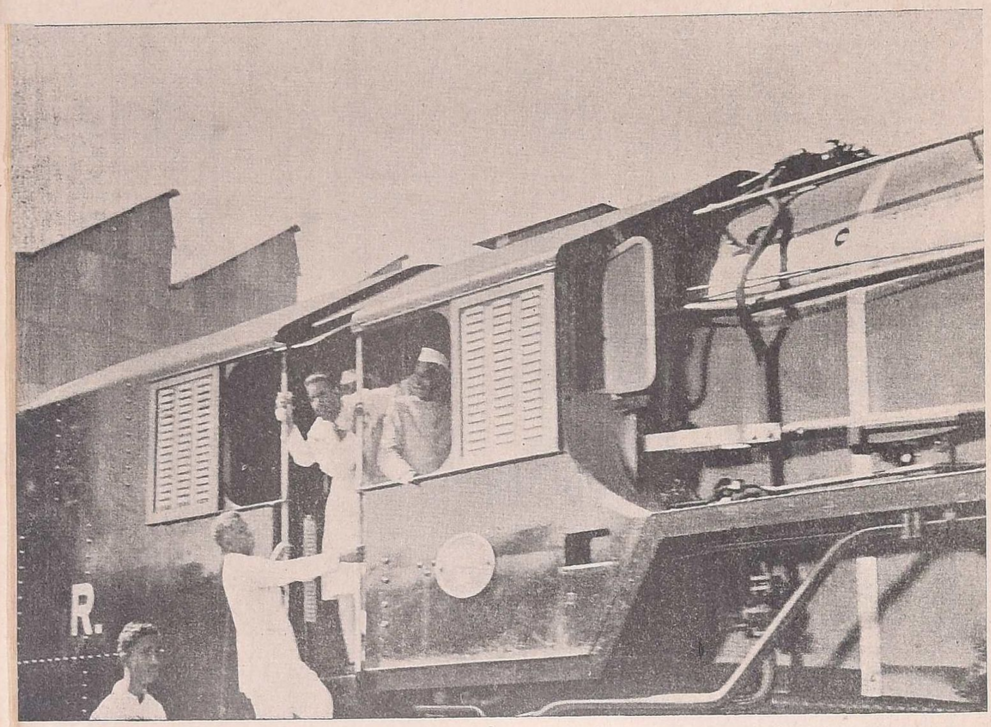
Consequent on the taking over of the *ex*-States' Railways by the Central Government from 1 April 1950, it was decided to extend to the staff of those Railways the benefits of the Hours of Employment Regulations as modified by the Adjudicator's Award. The preliminary work involved in implementing this decision had been taken in hand.

Measures to check bribery and corruption continued to receive the active attention of the Railway Administrations during the year. With the departmental anti-corruption organizations having gained experience in this direction and the Special Police Establishment extending their activities to Parts B and C States, the drive to combat this evil has become more intensive. Consequently, the reports received from the Railway Administrations show that this has had a considerable chastening and restraining influence over all classes of staff. With the tightening up of disciplinary rules and with the close liaison maintained between the Railway Administrations and the Special Police Establishment, it has been possible to achieve some success in tackling this problem.

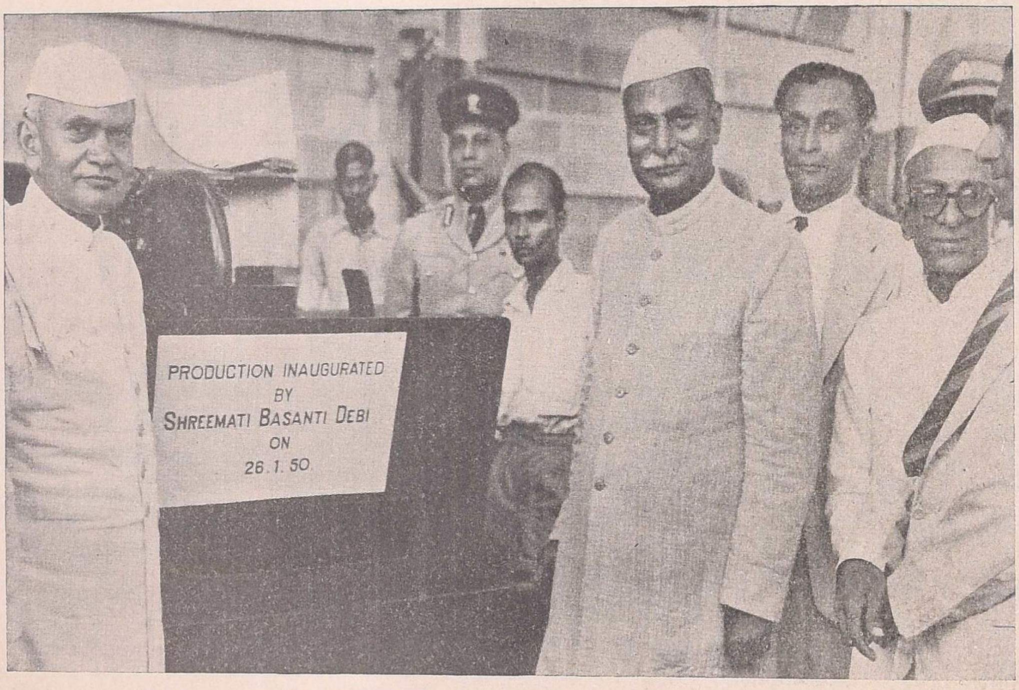
9. Security measures on Railways.—On railways where the Railway Protection Police has been functioning, the strength of the force has been reviewed from time to time in consultation with the State Governments and the Railway Administrations concerned. There has been no appreciable change in the general situation or the strength of the force during 1950-1.

Railways continued to give full attention to the fitting of security devices in compartments and maintaining them in good working order.

PRESIDENT AT CHITTARANJAN.

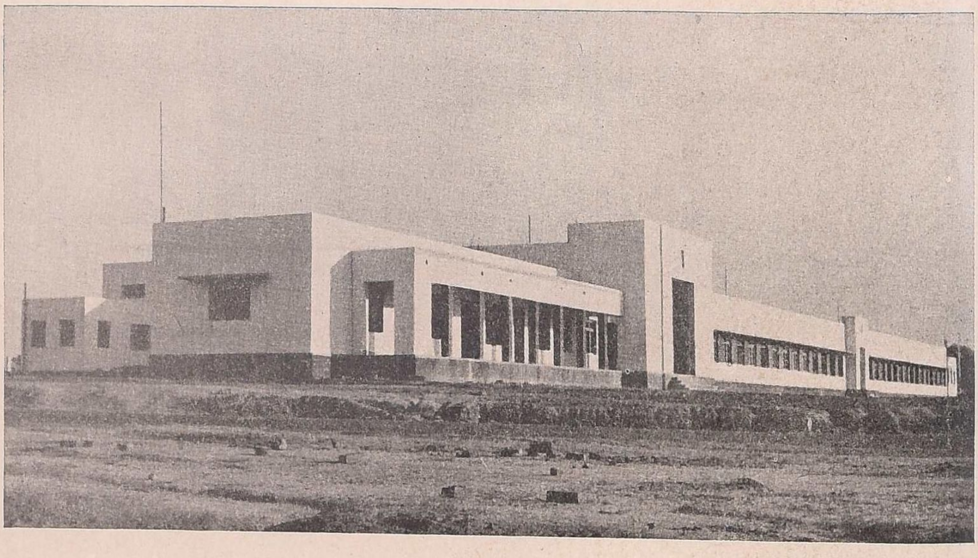


THE NAMKARAN CEREMONY OF LOCOMOTIVE MANUFACTURING WORKS AT CHITTARANJAN WAS PERFORMED BY THE PRESIDENT ON NOVEMBER 1, 1950. PHOTOGRAPH SHOWS THE PRESIDENT DRIVING THE FIRST LOCOMOTIVE ASSEMBLED AT THE WORKS.



THE PRESIDENT, H. E. THE GOVERNOR OF WEST BENGAL AND THE HON'BLE MINISTER OF STATE FOR RAILWAYS AT THE WORKS.

THE TECHNICAL SCHOOL, CHITTARANJAN.



The safety of women and children travelling by trains also continued to receive the special attention of the railway staff.

10. Publicity and public relations.—Indian Railways continued their usual publicity activities through posters, press notes, press conferences, etc. Some railways gave special publicity to mobilize public opinion against foot-board travel and ticketless travel. A booklet on " Ticketless Travel " published last year was translated in regional languages and copies were widely distributed.

The Indian Railways participated in the International Engineering Exhibition held at New Delhi from 10 January to 18 March 1951, which attracted a large number of visitors.

The Chittaranjan Locomotive Works brought out an illustrated brochure entitled " A Project is established ".

11. Complaints.—The Complaints Organization for watching the prompt disposal of complaints from the public continued to function. The volume of work handled may be gauged from the fact that during the year under review 24,601 complaints were handled by Railway Administrations. The Railway Board's office dealt with about 800 complaints. Suitable disciplinary action against the staff was taken in all cases where complaints were substantiated.

12. Floods and cyclones.—Considerable damage was done to railway property during the year as a result of heavy rains, floods, cyclones and earth-quake. The severest damage of Rs. 43,00,000 approximately was suffered by the Assam Railway consequent on heavy floods and earthquake during the months of June and August 1950. Details of the damage caused by such natural causes as these are shown in paragraph 70 of Chapter IV of this report.

13. Taking over of certain States' Railways during 1950-1.—During the year under review, in consequence of the Federal Financial Integration, the railway lines belonging to Part B States, *viz.*, Saurashtra, Rajasthan, Mysore, Madhya Bharat, Hyderabad, Patiala and East Punjab States Union, and Travancore-Cochin came to vest in the Central Government as the functional successor to the States in the Federal field. The lines which were taken over with effect from 1 April 1950 have increased the route mileage of Indian Government Railways by over six thousand miles.

14. Railway Rates Tribunal.—During the year under report, the Tribunal received three formal complaints from the public under Section 41 of the Indian Railways Act, 1890. These related to the classification of groundnuts without shells and the rates charged therefor, the classification of stones from certain areas in the vicinity of Chhuchhapura as marble undressed instead of as limestones and the quotation of a lower rate for cotton full-pressed and half-pressed, from Bombay to Ahmedabad as compared with those from Bombay to Baroda and Petlad. The Central Government also made two applications to the Tribunal under Section 42(1) of the said Act for enhance-ments in the classifications of "Jeera Seed White" and of "Ropes" of different kinds. All these cases were pending hearing at the close of the year.

The Tribunal also received several informal representations containing specific complaints or grievances in regard to which they advised the parties that representations which complied with the prescribed rules of procedure, could only be entertained by them.

15. Implementation of decision for division of rolling-stock between India and Pakistan.—No meeting of the Stores Sub-Committee (Railways) could be held to settle the points of disagreement and to decide other outstand-ing issues. The outstanding issues have, however, been pursued through correspondence as far as possible, but no replies had been received from Pakistan up to 31 March 1951. No further progress was, therefore, made in implementation of decisions for the division of stock.

16. Effect of Partition—absorption of India-opted staff of the old Bengal Assam and North Western Railways.—Of the two main issues, which were yet to be finally settled in regard to India-opted staff of the old Bengal Assam and North Western Railways, *viz.*, fixation of relative seniority and pre-1931 scales of pay to the transferred staff, a final decision has been taken in the year under review regarding the former except in respect of certain small

categories. The action taken by the railways on the general directives by the Board has been approved. As regards the scales of pay for the pre-1931 staff absorbed on the railways, a decision is yet to be taken.

17. **Loss of man-days as a result of strikes.**—The total number of man-days lost as a result of strikes in Workshops, Running Sheds and other similar establishments of the former Indian Government Railways during 1949-50 and 1950-1 was approximately 0·004 per cent and 0·121 per cent respectively of the total number of man-days worked, *i.e.*, an increase of 0·117 per cent in the total number of man-days lost in 1950-1 as compared with the figure for 1949-50, the increase in the percentage of man-days lost being mainly due to large increases in the number of man-days lost on the Bengal Nagpur, Bombay, Baroda and Central India and Great Indian Peninsula Railways. The increase in the loss of man-days on the Bengal Nagpur Railway was mainly due to the workshop and shed staff of that Railway having struck work on several occasions as a protest against the alleged failure of the Administration to redress their outstanding grievances, while, in the case of the Bombay, Baroda and Central India and Great Indian Peninsula Railways, the loss in man-days was mainly due to the workshop staff having struck in large numbers for one reason or the other and on one occasion in sympathy with the textile workers, who struck work in Bombay in September 1950. The number of man-days worked during the years 1949-50 and 1950-1 totalled 127,029,324 and 127,153,743 and the man-days lost owing to strikes amounted to 4,854 and 153,537 respectively.

The details of the total number of man-days worked during 1949-50 and 1950-1 and the number of man-days lost by railways in consequence of strikes are summarized in the following table:

NUMBER OF MAN-DAYS WORKED AND LOST THROUGH STRIKES DURING 1949-50 AND 1950-1

Railways	Year	No. of man-days worked	No. of man-days lost owing to	
			Legal Strikes	Illegal Strikes
Assam	1949-50	18,133,321	..	1,017
	1950-1	**12,786,434**	..	..
B. N.	1949-50	8,742,891	..	1,261
	1950-1	**10,722,220**	..	**87,439**
B. B. & C. I.	1949-50	12,177,194	..	386
	1950-1	**14,314,627**	..	**21,682**
E. I.	1949-50	54,076,677	..	1,690
	1950-1	**54,063,884**	..	**1,769**
E. P.	1949-50	3,454,490	..	..
	1950-1	**3,624,084**	..	..
G. I. P.	1949-50	14,290,254	..	397
	1950-1	**13,829,893**	**1,241**	**40,247**
M. & S. M.	1949-50	6,502,700	..	49
	1950-1	**6,284,872**	..	..
O. T.	1949-50	5,188,596	..	..
	1950-1	**5,098,320**	..	**9**
S. I.	1949-50	4,328,603	..	54
	1950-1	**5,032,891**	..	..
C. L. W.	1949-50	134,598	..	..
	1950-1	**1,396,518**	..	**1,150**
TOTAL	1949-50	127,029,324	..	4,854
	1950-1	**127,153,743**	**1,241**	**152,296**

18. Formation of Standing Screening Committees.—To ensure expeditious and careful scrutiny of the inventions and suggestions received from members of the public and railway employees, Standing Screening Committees have been set up in the Headquarters Office of each Railway. The Committees, which consist of technical officers of the various departments of the railway, meet once a month, examine each suggestion and give the inventor, where necessary, adequate facilities for explaining his ideas personally. The recommendations of the Committees are examined by the General Managers concerned, who decide, if necessary in consultation with the Railway Board, whether a particular invention or suggestion is suitable for adoption on the railways. In normal cases the General Managers are empowered to sanction rewards up to Rs. 500 in respect of devices considered suitable. For higher awards they submit their recommendations to the Railway Board for their consideration.

During the year, an award of Rs. 200 was paid to Mr. L. D. Eubank-Scott, Forge and Smithy Foreman, Central Workshops, Golden Rock, for his suggestion on a "Hand Wrapping Machine for Coiling rolled eye-ends on back plates of laminated bearing springs".

CHAPTER II

FINANCIAL RESULTS

A.—AGRICULTURAL CONDITIONS AND FOREIGN TRADE DURING 1950-1.

19. Monsoon conditions and agricultural situation, 1950-1.—In a predominantly agricultural country like India, monsoon conditions profoundly affect the general economic activity of the country. Their influence on agricultural production is reflected in the volume of rail traffic, foreign trade, and consequently the financial results of the railways. The principal features of the year from this point of view are briefly reviewed in the following paragraphs.

The south-west monsoons broke by the end of May on the western coast and extended to north-east India by the beginning of June, when the rainfall was so heavy that the rainfall was largely in excess of the normal in most parts of the eastern region of the country. It was particularly excessive during the second week of June in Gangetic West Bengal, Orissa, Bihar, eastern Uttar Pradesh and Vindhya Pradesh and continued to be so in larger parts of these areas up to the beginning of July. After a brief lull there was heavy rainfall again in the third week of July in these regions, and again, from the beginning of August up to the end of the third week of the month. The excessive and almost incessant rain from the second week of June to the third week of August resulted in heavy floods in several areas, washing away the seedlings of the *kharif* foodgrains that had already been sown and thereby causing serious damage to the outturn of the crops.

In the Punjab and PEPSU there was incessant and excessive rainfall from the second week of July to the third week of August causing floods and heavy damage to the *kharif* foodgrains.

On 16 August 1950, north-east Assam had a severe earthquake shock resulting in floods, which washed away, in certain parts, the paddy crop, almost the only *kharif* crop grown in the State.

In September and October, when rainfall is important for the *kharif* crops in the grain formation stage, there were disappointments. During the middle of September 1950 or beginning of October drought set in Orissa, Bihar, eastern Uttar Pradesh and Vindhya Pradesh, where the crops had already been damaged by incessant rains or floods during the preceding three months. Madhya Pradesh, Hyderabad, and the southern parts of Bombay also were affected by drought. Drought continued almost unabated in these regions till the time of *kharif* harvesting in October-November, and the yield, already impaired at the grain formation stage, was consequently very low. The north-east monsoon, which unfortunately failed over large parts of South India, resulted in damage to the *kharif* crops in parts of Madras, Hyderabad and Mysore.

The rains during October to January which affect *rabi* foodgrains —wheat, barley and *rabi jowar*—generally sown during October-December, was disappointing. The prolonged drought, which started in the middle of September delayed *rabi* sowings. There were no rains in the country during the first three weeks of December, and only light showers during the fourth week of December in parts of Uttar Pradesh, Rajasthan, Madhya Bharat, Vindhya Pradesh and Madhya Pradesh. There was no rainfall in Punjab and Bihar and the *rabi jowar*-growing areas of South India. In January the rainfall position improved particularly in Uttar Pradesh, Vindhya Pradesh and Madhya Pradesh.

The cold wave that swept over certain northern and central parts of the country and locust attacks, which grew intense during February 1951, also did some damage to the standing crops in parts of Madhya Pradesh, Punjab, Uttar Pradesh, PEPSU and Rajasthan. Heavy rains which followed accompanied by hailstorm towards the end of March or beginning of April 1951, did some damage to standing crops as well as to the harvested grain awaiting threshing in the fields in parts of Northern and Central India. On the whole,

however, the *rabi* crops harvested in March-May turned out to be better than last year, though delayed.

The year 1950-1 was thus a mixed year, bad for the *kharif* crops, and comparatively better for the *rabi* crops. During the year, there was a general decrease in both area and yield of foodgrains, along with an increase under sugarcane and fibres. The decrease was significant in the case of yield of rice, millets and non-edible oilseeds, which might be attributed to heavy rains and floods in June-August and drought since mid-September to mid-December in certain important rice and millet-growing areas.

A significant increase under sugarcane has been reported from the Uttar Pradesh as being stimulated by high prices of *gur* at the sowing time. Madras and the Punjab recorded some increase in acreage and an appreciable rise in yield owing to favourable weather conditions. The increase in cotton and jute is to be ascribed to the efforts made for extensive cultivation of these fibres under the Integrated Production Plan.

The percentage variations as compared with the previous year, in acreage and yield of principal crops according to latest available information are shown in the following table.

VARIATIONS IN ACREAGE AND YIELD OF PRINCIPAL CROPS

(Increase or decrease per cent in 1950-1 over 1949-50)

Crop*	Acreage	Yield
Rice (Final)	+ 0·1	−12·0
Wheat (Final)	− 0·5	+ 4·8
Jowar (Final)	− 0·3	− 9·9
Bajra (Final)	−12·0	−15·5
Maize (Final)	− 6·2	−16·5
Ragi (Final)	− 4·5	− 9·9
Barley (Final)	− 2·7	+ 5·0
Gram (Final)	− 5·4	+ 2·7
Sugarcane (Final)	+14·2	+10·6
Potato (Second)	...	+ 4·2
Sesamum (Supplementary)	+ 3·8	− 2·3
Groundnut (Final)	+ 6·5	− 1·4
Rape and Mustard (Final)	+15·1	+ 4·2
Linseed (Final)	− 6·8	− 6·3
Castor (Final)	−13·9	−17·2
Cotton (Final)	+13·9	+11·3
Jute (Final)	+24·6	+ 6·6
Tobacco (Final)	− 0·1	− 2·8

* The character of the forecast is indicated within brackets.

20. Trade review.—The improvement in the foreign sea-borne trade of India during the last few years was maintained during the year. Imports and exports as well as re-exports registered increases as compared with 1949-50.

The total recorded value of imports of foreign merchandise rose by Rs. 5 crores or about 1 per cent from Rs. 5,61 crores last year to Rs. 5,66 crores during 1950-1. Increases were noticeable mainly under cotton raw, sulphate of ammonia, artificial silk yarn, coal tar dyes other than alizarine, zinc unwrought, wool raw, kerosene, silk raw and cocoons, tin unwrought, drugs and medicines, paper, dates, motor spirit, copper unwrought, chemicals and betelnuts. There, were, however, decreases under cotton piecegoods, cotton textile machinery, electrical instruments, prime movers other than electrical, and glass and glassware.

The total recorded value of exports increased by Rs. 1,02 crores or 22 per cent from Rs. 4,72 crores in 1949-50 to Rs. 5,74 crores in 1950-1. The items mainly responsible for the increase were cotton piecegoods, groundnut oil, pepper, tea black, castor seed, cotton twist and yarn, cotton waste, coir yarn, lac, wool raw, castor oil, mica, cashew kernels, unmanufactured tobacco,

woollen carpets and rugs, skins tanned or dressed, and linseed. Noticeable decreases were, however, recorded under raw jute, raw cotton, gunny bags, and groundnut seed.

The total recorded value of re-exports advanced from Rs. 13 crores in 1949-50 to Rs. 28 crores in 1950-1. The main items which accounted for the increase were raw and manufactured jute, raw wool, seeds, fruits and vegetables and machinery and millwork. Decreases were, however, noticeable under manufactured tobacco and cotton manufactures.

B.—FINANCIAL RESULTS OF INDIAN GOVERNMENT RAILWAYS (INCLUDING WORKED LINES)

21. Financial results of working.—The gross traffic receipts of Indian Railways, including the worked lines, for the year 1950-1 amounted to Rs. 263·01 crores as compared with Rs. 236·35 crores in 1949-50, or an increase of Rs. 26·66 crores.

The ordinary working expenses for the year amounted to Rs. 180·23 crores against Rs. 181·53 crores in 1949-50, or a decrease of Rs. 1·30 crores. The contribution to the Depreciation Reserve Fund was Rs. 30 crores as against Rs. 11·58 crores during 1949-50. The increase in the contribution was necessitated by the increased costs of replacements, allocation of both the inflationary and improvement elements in the replacement expenditure to this fund, and a large-scale replacement and renovation of the assets belonging to the *ex*-States' Railways. Payments to worked lines as their share of net earnings came to Rs. 25 lakhs only as against Rs. 1·80 crores in 1949-50. The operating ratio, that is the ratio of working expenses (excluding Suspense, but including Appropriation to Depreciation Reserve Fund) to gross earnings, was 81·01 per cent against 80·96 per cent in 1949-50.

The net result of miscellaneous transactions during the year under review was *minus* Rs. 4·97 crores against *minus* Rs. 3·67 crores in 1949-50.

The net revenue for the year was Rs. 47·56 crores as against Rs. 37·77 crores in the previous year.

During 1949-50, an amount of Rs. 23·18 crores was paid as interest charges on capital-at-charge ; an *ad hoc* contribution of Rs. 7 crores was also paid to the General Revenues from the surplus of the year. During 1950-1, an amount of Rs. 32·51 crores, representing the dividend at 4 per cent on the capital invested out of General Revenues in the Railway undertaking, excepting strategic lines, was paid. This was in accordance with the Revised Convention for the separation of Railway Finance from General Finance, in terms of which a fixed dividend is to be paid instead of interest charges on capital-at-charge and *ad hoc* contribution.

The surplus for the year amounted to Rs. 15·05 crores against Rs. 14·59 crores in 1949-50, *i.e.*, an increase of Rs. 46 lakhs. This was allocated to the Development and Reserve Funds as follows :—

	(In crores of Rupees)
Development Fund	10·00
Revenue Reserve Fund	5·05

As already stated, the contribution to the Depreciation Reserve Fund during the year was Rs. 30 cores. The interest on the fund balance, which has also, with effect from the year under review, been credited to the fund, amounted to Rs. 3·59 crores. The amount withdrawn during the year for renewals was Rs. 26·62 crores against Rs. 11·73 crores in 1949-50 and the net accretion to the fund in 1950-1 was Rs. 6·97 crores against Rs. 7·44 crores in 1949-50. The balance in the Depreciation Reserve Fund at the end of the year, including the provisional balance of Rs. 7·67 crores of the *ex*-States' Railways, was Rs. 123·65 crores as against Rs. 109·01 crores at the end of 1949-50.

The works expenditure during the year amounted to Rs. 52·03 crores as against Rs. 45·98 crores in 1949-50. Of this, an amount of Rs. 25·41 crores was charged to Capital and Rs. 26·62 crores to the Depreciation Reserve Fund.

22. Traffic Receipts.—The total traffic receipts of the Indian Railways, excluding the worked lines, amounted to Rs. 262·07 crores. The details are given in the subjoined statement.

EARNINGS AND NET TRAFFIC RECEIPTS (GOVERNMENT RAILWAYS)

(In crores of rupees)

	1948-9	1949-50	1950-1
Passenger earnings	84·00	86·35	**97·84**
Other coaching earnings	18·66	17·46	**16·76**
Goods earnings	108·29	130·37	**143·01**
Sundry earnings	4·09	4·94	**4·74**
Suspense	—1·94	—2·77	**0·66**
TOTAL	213·10	236·35	**263·01**
Less earnings of worked lines	4·42	4·95	**1·01**
Net traffic receipts	208·68	231·40	**262·00**

23. Working Expenses.—The working expenses of each railway are given in Statements 3 and 7 of Volume II of this Report.

A comparison of ordinary working expenses (excluding suspense) under the various heads for the year 1950-1 with those for 1949-50 is given in the following statement.

ANALYSIS OF WORKING EXPENSES

(In lakhs of rupees)

Demand heads	1949-50	1950-1	Difference more than 1949-50 (+) less than 1949-50 (—)
Administration	22,46	**23,36**	+90
Repairs and maintenance	67,88	**57,11**	—10,77
Operating staff	31,23	**35,41**	+4,18
Operation (Fuel)	28,36	**30,72**	+2,36
Operation other than staff and fuel	12,70	**13,35**	+65
Miscellaneous expenses	19,35	**19,47**	+12
Labour welfare	..	**3,11**	+3,11
TOTAL	1,81,98	**1,82,53**	+55

As compared with 1949-50, there was an increase of only Rs. 55 lakhs. The excesses occurred under all demand heads, with the exception of Repairs and Maintenance, in which there was a saving of Rs. 10·77 crores. The largest excess was under Operating Staff and this amounted to Rs. 4·18 crores, due mainly to the application of Central Pay Commission's recommendations to the operating staff of *ex*-States' Railways and to the implementations of the Joint Advisory Committee's recommendations on the Indian Government Railways.

The next largest excess, Rs. 3·11 crores, was under the head, 'Labour Welfare', which was introduced during the year under review.

The head 'Operation (Fuel)' accounted for an excess of Rs. 2·36 crores, the result mainly of receipt of more coal by sea-*cum*-rail route on the South Indian Railway, more loss on the working of Railway Collieries, increased consumption of coal, etc.

The saving under the head 'Repairs and Maintenance' is to be attributed chiefly to the adjustment in the accounts for 1949-50, of Rs. 15·25 crores on account of the inflationary and improvement elements in replacement costs which, in the year under review, has been charged to the Depreciation Reserve Fund.

An analysis of the financial results of the working of the Indian Government Railways showing the capital-at-charge, gross receipts, working expenses, net revenue receipts and dividend, etc., by each railway for the last three years is given in the following statement.

FINANCIAL RESULTS OF WORKING OF INDIAN GOVERNMENT RAILWAYS

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by Companies and Indian States	Net Government Capital-at-charge	Gross receipts	Working expenses including Suspense and Depreciation Reserve Fund	Payment to worked lines	Net Revenue Receipts	Percentage of Net Revenue Receipts on Capital-at-Charge	Charges against Net Revenue Receipts: Interest charges	Net gain or loss to Government: Gain	Net gain or loss to Government: Loss
(1) Assam	1948-9	23,27,49	3,00	23,24,49	4,10,92	6,78,66	7,44	−2,75,18	−11·39	73,09	..	3,48,27
	1949-50	30,50,70	3,00	30,47,70	4,60,13	8,10,16	5,23	−3,55,26	−11·64	95,02	..	4,50,28
	1950-1	**33,10,20**	**3,00**	**33,07,20**	**7,08,40**	**10,78,19**	**2,97**	**−3,72,76**	**−11·26**	**1,30,20**	..	**5,02,96**
(2) Assam Rail Link Project	1948-9	3,39,72	..	3,39,72	..	..	..	..	..	5,78	..	5,78
	1949-50	6,09,70	..	6,09,70	..	..	..	..	..	15,09	..	15,09
	1950-1	**7,53,70**	..	**7,53,70**	..	..	..	..	..	**27,27**	..	**27,27**
(3) Bengal Nagpur	1948-9	84,50,74	..	84,50,74	24,04,74	22,42,73	1,19	1,60,82	1·90	2,68,95	..	1,08,13
	1949-50	86,26,14	..	86,26,14	27,49,45	23,73,91	11	3,75,43	4·58	2,71,52	1,03,91	..
	1950-1	**87,12,76**	..	**87,12,76**	**30,14,69**	**23,16,60**	..	**6,98,09**	**8·01**	**3,46,78**	**3,51,31**	..
(4) Bikaner State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**4,73,68**	..	**4,73,68**	**1,41,16**	**1,08,76**	..	**32,40**	**6·84**	**18,82**	**13,58**	..
(5) Bombay, Baroda and Central India	1948-9	79,62,17	1,27,97	78,34,20	30,26,43	19,35,43	30,67	10,60,33	13·32	2,58,33	8,02,00	..
	1949-50	81,14,44	1,27,97	79,86,47	33,80,30	22,04,85	37,41	11,38,04	14·02	2,53,15	8,84,89	..
	1950-1	**91,18,16**	..	**91,18,16**	**36,92,73**	**24,02,35**	..	**12,90,38**	**14·15**	**3,57,04**	**9,33,34**	..
(6) East Indian	1948-9	1,90,01,82	..	1,90,01,82	52,75,53	46,63,50	..	6,12,03	3·22	6,22,23	..	10,20
	1949-50	1,93,93,71	..	1,93,93,71	60,32,81	48,01,95	..	12,30,86	6·35	6,37,95	5,92,91	..
	1950-1	**1,96,38,24**	..	**1,96,38,24**	**61,15,18**	**50,16,74**	..	**10,98,44**	**5·60**	**7,80,64**	**3,17,80**	..
(7) Eastern Punjab	1948-9	46,68,98	..	46,68,98	13,46,65	10,08,80	41,18	2,96,67	6·35	1,48,50	1,48,17	..
	1949-50	49,41,20	..	49,41,20	14,65,34	11,95,77	50,43	2,19,14	4·44	1,55,66	63,48	..
	1950-1	**53,47,84**	..	**53,47,84**	**12,51,55**	**12,40,38**	**4,89**	**6,28**	**0·12**	**2,06,08**	..	**1,99,80**
(8) Great Indian Peninsula	1948-9	1,26,48,20	..	1,26,48,20	39,74,55	27,67,93	48,89	11,57,73	9·15	3,87,94	7,69,79	..
	1949-50	1,33,55,73	..	1,33,55,73	43,51,41	32,18,17	58,69	10,74,55	8·04	4,09,58	6,64,97	..
	1950-1	**1,38,56,85**	..	**1,38,56,85**	**44,31,63**	**32,26,62**	**8,93**	**11,96,08**	**8·63**	**5,48,75**	**6,47,33**	..
(9) Jodhpur	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**5,44,81**	..	**5,44,81**	**1,92,47**	**1,42,55**	..	**49,92**	**9·16**	**21,80**	**28,12**	..

(10) Madras and Southern Mahratta	1948-9	54,88,15	..	54,88,15	20,44,52	16,35,74	7,20	4,01,58	7·32	1,90,38	2,11,20	..
	1949-50	57,17,44	..	57,17,44	21,57,08	18,27,99	3,11	3,25,98	5·70	1,94,24	1,31,74	..
	1950-1	**58,54,36**	..	**58,54,36**	**23,86,49**	**18,01,17**	**79**	**5,84,53**	**9·98**	**2,32,08**	**3,52,45**	..
(11) Mysore State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**7,64,87**	..	**7,64,87**	**2,60,09**	**2,07,35**	**69**	**52,05**	**6·80**	**30,54**	**21,51**	..
(12) Nizam's State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**18,06,98**	..	**18,06,98**	**6,95,55**	**4,23,39**	..	**2,72,16**	**15·06**	**71,20**	**2,00,96**	..
(13) Oudh Tirhut	1948-9	39,34,48	..	39,34,48	11,93,13	10,15,43	..	1,77,70	4·52	1,23,62	54,08	..
	1949-50	35,76,14	..	35,76,14	12,62,21	13,52,07	..	−89,86	−2·51	1,09,77	..	1,99,63
	1950-1	**37,23,86**	..	**37,23,86**	**11,79,79**	**12,02,84**	..	**−23,05**	**−0·62**	**1,45,92**	..	**1,68,97**
(14) Saurashtra	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**11,84,72**	..	**11,84,72**	**3,14,68**	**2,94,83**	..	**19,85**	**1·68**	**47,45**	..	**27,60**
(15) South Indian	1948-9	45,20,58	80,47	44,40,11	15,83,71	12,00,05	25,82	3,57,84	7·91	1,33,97	2,23,87	..
	1949-50	46,43,30	80,47	45,62,83	16,86,56	14,39,37	25,30	2,21,89	4·71	1,33,71	88,18	..
	1950-1	**49,08,27**	**80,47**	**48,27,80**	**17,78,89**	**14,36,75**	**7,19**	**3,34,95**	**6·83**	**1,91,81**	**1,43,14**	..
(16) Cutch State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**32,69**	..	**32,69**	**8,56**	**8,13**	..	**43**	**1·32**	**1,28**	..	**85**
(17) Dholpur State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**20,14**	..	**20,14**	**6,34**	**4,39**	..	**1,95**	**9·63**	**80**	**1,15**	..
(18) Jaipur State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**2,60,61**	..	**2,60,61**	**50,54**	**38,29**	..	**12,25**	**4·70**	**9,34**	**2,91**	..
(19) Rajasthan	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**1,88,66**	..	**1,88,66**	**42,33**	**38,60**	..	**3,73**	**1·98**	**7,57**	..	**3,84**
(20) Scindia State	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	..	..	..	..	..	..	..	..	..	..	..
	1950-1	**1,32,07**	..	**1,32,07**	**30,33**	**34,14**	..	**−3,81**	**−2·89**	**5,31**	..	**9,12**
(21) Chittaranjan Locomotive Works	1948-9	..	..	..	..	..	..	..	..	..	..	..
	1949-50	7,09,60	..	7,09,60	..	..	..	..	..	14,35	..	14,35
	1950-1	**13,25,32**	..	**13,25,32**	..	..	..	..	..	**40,70**	..	**40,70**
(22) Coal Department	1948-9	6,90,58	..	6,90,58	..	..	..	..	..	19,94	..	19,94
	1949-50	7,18,63	..	7,18,63	..	..	..	..	..	22,41	..	22,41
	1950-1	**7,45,00**	..	**7,45,00**	..	..	..	..	..	**29,27**	..	**29,27**

FINANCIAL RESULTS OF WORKING OF INDIAN GOVERNMENT RAILWAYS—*contd.*

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by Companies and Indian States	Net Government Capital-at-charge	Gross receipts	Working expenses including Suspense and Depreciation Reserve Fund	Payment to worked lines	Net Revenue Receipts	Percentage of Net Revenue Receipts on Capital-at-Charge	Charges against Net Revenue Receipts: Interest charges	Net gain or loss to Government: Gain	Net gain or loss to Government: Loss
(23) Gaekwar Baroda State (K. D., P. K. and Okhamandal Sections)	1949-50	2	..	2	13,98	13,80	..	18	..	..	18	..
(24) Darjeeling Himalayan	1948-49	1,10,08	..	1,10,08	29,47	41,29	..	−11,82	−10·74	1,76	..	13,58
	1949-50	1,11,19	..	1,11,19	29,85	44,34	..	−14,49	−13·04	3,52	..	18,01
(25) Bezwada Extension and Dhone Kurnool	1948-9	46,19	..	46,19	20,87	15,79	..	5,08	11·00	1,48	3,60	..
	1949-50	46,25	..	46,25	45,25	38,68	..	11,57	25·00	1,47	10,10	..
(26) Others	1948-9	..	..	..	..	−35,05	..	35,05	..	−47	35,52	..
	1949-50	..	..	..	..	−5,57	..	5,57	..	−21	5,78	..
	1950-1	..	..	..	..	**76**	..	**−76**	..	..	..	**76**
(27) Interest on Depreciation Reserve Fund Balances	1948-9	..	..	..	3,36,16	..	..	3,36,16	..	..	3,36,16	..
	1949-50	..	..	..	3,55,53	..	..	3,55,53	..	..	3,55,53	..
	1950-1	..	..	..	..	..	..	..	..	..	..	..
(28) Net Miscellaneous Receipts and charges not attributable to any one railway	1948-9	..	..	..	..	..	..	..	..	..	..	80,32
	1949-50	..	..	..	..	..	..	..	..	..	..	7,22,54
	1950-1	..	..	..	..	..	..	..	..	..	..	**4,97,15**
TOTAL	1948-9	7,01,89,18	2,11,44	6,99,77,74	2,16,46,68	1,71,70,30	1,62,39	43,13,99	6·15	22,35,50	19,98,17	..
	1949-50	7,36,14,19	2,11,44	7,34,02,75	2,39,89,90	1,93,10,49	1,80,28	44,99,13	6·11	23,17,23	14,59,36	..
	1950-1	**8,27,03,79**	**83,47**	**8,26,20,32**	**2,63,01,40**	**2,10,22,83**	**25,46**	**52,53,11**	**6·36**	**32,50,65**	**15,05,31**	..

NOTES.—1. The figures of capital-at-charge are provisional pending closing of pre-partition accounts, and the finalization of the balances of the *ex*-States' Railways to be brought forward on the 1st April 1950.

2. The figures for 1950-1 in the column 'Interest Charges' represent 'Dividend to General Revenues' as computed in terms of the Revised Railway Convention.

24. Losses and gains.—Gains and losses on the Railways for the three years on each railway are summarized in a comparable form in the following statement: —

(In lakhs of rupees)

	1948-9	1949-50	1950-1
Assam	--3,48	−4,50	**−5,03**
Bengal Nagpur	--1,08	1,04	**3,51**
Bikaner State	...	...	**14**
Bombay, Baroda and Central India .	8,02	8,85	**9,33**
East Indian	−10	5,93	**3,18**
Eastern Punjab	1,48	63	**−2,00**
Great Indian Peninsula . . .	7,70	6,65	**6,47**
Jodhpur	...	..	**28**
Madras and Southern Mahratta .	2,11	1,32	**3,52**
Mysore State	...	...	**21**
Nizam State	...	...	**2,01**
Oudh Tirhut	54	−2,00	**−1,69**
Saurashtra	...	..	**--28**
South Indian	2,24	88	**1,43**
Cutch State	...	...	**--1**
Dholpur	...	...	**1**
Jaipur State	...	...	**3**
Rajasthan	...	...	**--4**
Scindia State	...	...	**--9**

The *ex*-States' Railways were taken over on 1 April 1950, and, consequently, their figures for the years 1948-9 and 1949-50 are not available. During 1950-1, seven railways show losses, namely, the Assam, Eastern Punjab, Oudh Tirhut, Saurashtra, Cutch State, Rajasthan and Scindia State Railways.

25. Development Fund.—In pursuance of the recommendations of the Railway Convention Committee, 1949, accepted by the Constituent Assembly of India (Legislative), a Development Fund was instituted with effect from 1 April 1950 to finance:

(1) the cost of all passenger amenity works, whether additions or replacements, irrespective of any monetary limit ;

(2) the cost of labour welfare works if estimated to cost individually more than the revised New Minor Works limit of Rs. 25,000 ;

(3) the excess over Rs. 3 lakhs in the cost of each unremunerative project for improvement of operational efficiency ; and

(4) the cost of construction of new lines which were necessary but unremunerative.

For purposes of items 3 and 4, a project is to be considered "remunerative" only if it yields a return of 4·25 per cent on the estimated cost after making due allowance for depreciation, operation and maintenance charges.

The Betterment Fund was merged in the Development Fund and thus this Fund received an initial credit in 1950-1 of Rs. 13·80 crores, being the closing balance at credit of the Betterment Fund on 31 March 1950. During the year, the Fund received a credit of Rs. 10·52 crores including interest, while Rs. 5·35 crores was withdrawn from it for meeting expenditure chargeable thereto, giving a net credit of Rs. 5·17 crores to the Fund. The closing balance at credit of the Fund on 31 March 1951 was Rs. 19·44 crores which includes Rs. 47 lakhs on account of Indian States Railways taken over from 1 April 1950.

26. **Revision of Railway Separation Convention.**—In April 1949, the Constituent Assembly (Legislative) agreed to constitute the Railway Convention Committee. Nine non-official members were elected to serve on the Committee, with the Hon'ble Minister-in-charge of Transport and Railways and the Hon'ble Minister-in-charge of Finance as *ex-officio* chairman and member respectively.

The terms of reference of the Committee were to review the working of the Convention adopted under the Central Legislative Assembly's Resolution, dated 20 September 1924 for the separation of Railway from General Finances and to examine the constitution and administration of the Railway Depreciation Reserve Fund, the Railway Betterment Fund and the Railway Reserve Fund, as well as other ancillary matters.

The Constituent Assembly (Legislative) after due consideration of the recommendations of the Railway Convention Committee adopted a Resolution on 21 December 1949. The text of the resolution is reproduced *in extenso* in Appendix A.

The main provisions of this resolution are readily indicated. Firstly, for the quinquennium commencing from 1 April 1950, General Revenues are to be paid an annual dividend of 4 per cent on the capital invested in other than strategic lines. Secondly, an annual contribution of not less than Rs. 15 crores should be made to the Depreciation Fund and that a Development should be constituted to finance expenditure on:

(*a*) passenger amenities,

(*b*) labour welfare, and

(*c*) railway projects which are necessary, but unremunerative.

C.—GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS

27. **Analysis of earnings.**—The total earnings for the year 1950-1 of all Class I, II and III Railways falling in the Indian Union, including those in which the Government of India have no financial interest, amounted to Rs. 264·61 crores, of which Rs. 139·77 crores or 52·8 per cent was from goods traffic, Rs. 99·21 crores or 37·5 per cent from passenger traffic and Rs. 25·63 crores or 9·70 per cent from parcels, luggage and other miscellaneous sources of revenue.

28. **Traffic and mileage.**—The more important figures of traffic on all Indian Railways are summarized in the table below for the years 1948-9 to 1950-1. There has been a progressive increase in the volume of traffic carried during the last three years. The figures of railways other than Class I Railways record a slight decrease, which, however, is not reflected in the total for all railways.

STATISTICS OF TRAFFIC OF ALL INDIAN RAILWAYS

—	Year	Class I railways	Other railways	Total of all railways
Total route mileage	1948-9	30,125·49	3,735·36	33,860·85
	1949-50	31,010·37	3,011·92	34,022·29
	1950-1	**31,029·65**	**3,049·29**	**34,078·94**
Passengers originating (in millions)	1948-9	1,114	71	1,185
	1949-50	1,195	60	1,255
	1950-1	**1,251**	**57**	**1,308**
Passenger miles (in millions)	1948-9	37,129	1,688	38,817
	1949-50	38,465	1,555	40,020
	1950-1	**40,231**	**1,479**	**41,710**
Tons originating (in millions)	1948-9	79	4	83
	1949-50	88	4	92
	1950-1	**89**	**3**	**92**
Net ton miles (in millions)	1948-9	22,387	363	22,750
	1949-50	25,119	346*	25,465*
	1950-1	**26,697**	**311**	**27,008**

* Revised.

29. Passenger earnings.—In comparison with 1949-50, passenger earnings on all Indian Railways increased by about Rs. 3·96 crores, an increase of 4·15 per cent. The number of passengers carried increased by about 55 millions, an increase of 4·22 per cent and passenger miles increased by about 1,690 millions, an increase of 4·22 per cent.

The earnings of all Indian Railways from passenger traffic for the three years 1948-9 to 1950-1 are summarized in the table below:—

(In lakhs of rupees)

	1948-9	1949-50*	1950-1
First class/Class I (including Air-conditioned)	1,87	3,83	2,65
Second class/Class II Special	6,53	94†	4,31
Inter class/Class II	6,30	9,01	6,80
Third class	78,41	81,47	85,45
TOTAL	93,11	95,25	99,21

* Revised.

† Represents earnings for four months only when Class II Special was in operation.

It should be stated that the figures for 1948-9 are not strictly comparable with those of the succeeding two years on account of changes in the classification of passenger accommodation.

Variations in passenger traffic and earnings of the Class I Railways are indicated below.

VARIATIONS IN PASSENGER TRAFFIC AND EARNINGS, CLASS I RAILWAYS

Railways	Increase (+) or decrease (−) as compared with 1949-50	
	Passengers carried in millions	Earnings in lakhs Rs.
Assam	+ 5·7	+ 63
Bengal Nagpur	+ 7·4	+ 91
Bikaner	+ 0·6	+ 3
Bombay, Baroda and Central India	+20·2	+1,00
East Indian	+ 6·3	+ 66
Eastern Punjab	+ 2·9	+ 17
Great Indian Peninsula	+10·4	+ 33
Jodhpur	+ 0·2	+ 14
Madras and Southern Mahratta	+ 2·5	+ 38
Mysore	+ 1·2	+ 9
Nizam State	+ 0·9	+ 3
Oudh Tirhut	− 6·6	− 57
South Indian	+ 6·8	+ 39

Detailed figures of the number of passengers carried, passenger miles and earnings are given in Summary X and Statements 12 and 36 of Volume II of this Report.

30. Goods earnings.—As compared with 1949-50, goods earnings on all Indian Railways increased by about Rs. 4·07 crores, an increase of 3·0 per cent; tonnage of goods carried increased by about 0·8 millions, an increase of 0·84 per cent; and each ton was carried on an average a distance of 292·5 miles as compared with 278·1 miles during 1949-50. Net ton miles showed an increase of about 1,543 millions, an increase of 6·06 per cent.

It may be recalled that in the last report it was mentioned that the rationalization of the rating structure which was introduced with effect from 1 October 1948 had contributed more goods earnings during 1949-50. The increase in goods earnings this year also is, to some extent, attributable to the operation of the revised rating structure, apart from the additional traffic handled during the year.

The statement below gives details of the earnings from the principal commodities carried by Class I Railways during 1948-9 to 1950-1. It may be seen from this statement that barring gram and pulse, wheat and wheat flour, salt, sugar refined and unrefined, and cotton manufactured, there have been, in respect of all the other commodities, more receipts from traffic carried during 1950-1 than during 1949-50.

(Figures in lakhs of rupees)

	1948-9	1949-50	**1950-1**
Gram and pulse	4,41	4,75	**4,45**
Wheat and wheat flour	2,87	4,05	**3,36**
Rice not in the husk	3,69	3,37*	**3,51**
Oilseeds	3,67	3,63	**3,80**
Fruits and vegetables fresh	2,12	2,56	**2,59**
Coal, coke and patent fuel for the public	12,72	15,38	**15,78**
Coal, coke and patent fuel for railways and home line construction	3,31	3,54	**3,82**
Marble and stone	1,56	2,33*	**2,61**
Salt	3,39	3,22	**3,10**
Petrol in bulk	1,68	2,07	**2,94**
Wood, unwrought	1,50	2,50	**2,79**
Sugar refined and unrefined	3,25	2,96	**2,88**
Cotton manufactured	3,32	3,76	**2,88**
Cement	1,73	3,19	**3,42**
Iron and steel wrought	5,48	8,47	**9,26**
Material and store on revenue account	4,59	7,97	**8,17**

*** Revised.**

The variations in goods traffic on Class I Railways are indicated below. All railways registered substantial increases over the previous year, exceptions being only the Bikaner, East Indian and Mysore, which recorded very slight decreases.

VARIATIONS IN VOLUME OF GOODS TRAFFIC

(Figures in thousands)

Railways	Increase (+) or decrease (−) as compared with 1949-50 Tons carried
Assam	+ 8,62
Bengal Nagpur	+ 6,47
Bikaner	− 20
Bombay, Baroda and Central India	+14,94
East Indian	− 40
Eastern Punjab	+ 3,31
Great Indian Peninsula	+ 4,58
Jodhpur	+ 1,20
Madras and Southern Mahratta	+ 2,16
Mysore	− 4
Nizam State	+ 3,85
Oudh Tirhut	+10,09
South Indian	+ 1,66

Detailed statistics of goods traffic are given in Summary X Statements 13, 29 and 36 of Volume II of this Report.

31. Measures relating to statistics and statistical organization.—No major organizational changes occurred during the year ; but the reoriented statistics and the systematic appreciation of monthly operating results were used more intensively and to better purpose during the year. Deviations from normal were vigorously taken up with the railways and reports on remedial action called for. The tone of operation was thus maintained, and, in some places, improved.

CHAPTER III

TRANSPORTATION

A.—OPERATING

32. **Operating General.**—The punctuality of mail and important through passenger trains registered an appreciable improvement on the metre gauge ; the percentage of such trains not losing time increased from 67 during the previous year to 71 during the year under review. On the broad gauge there was a decline from 76 to 70 due mainly to speed restrictions imposed as part of the security measures on the Madras and Southern Mahratta and South Indian Railways and to an abnormal number of cases of pulling of alarm chains.

In addition to the fast trains exclusively catering for Third class passengers, named *Janata* Expresses, introduced during the previous year, weekly *Janata* Expresses were introduced each way between Madras and Bombay, and Bombay and Delhi from 1 November 1950. The *Janata* Express trains on the South Indian Railway running between Madras (Egmore) and Trichinopoly were extended to run between Madras (Egmore) and Madura. On the Bombay, Baroda and Central India Railway, such trains running between Bombay Central and Baroda were extended to run between Bombay Central and Ahmedabad. On the Oudh Tirhut Railway the *Janata* Express trains running between Lucknow and Chupra were extended to run between Lucknow and Katihar.

Generally, movement of freight traffic over the broad gauge was smooth and the loading free, except *viâ* certain junction and transhipment points movements through which were governed by quotas. The position on the metre gauge, however, was not quite so satisfactory and there were heavy arrears of loading due mainly to shortage of metre gauge stock.

The Priority Organization was abolished with effect from 1 April 1950. Thereafter, the allotment of wagons for goods traffic was regulated on the normal principle of 'first come, first served'. To ensure regular movements of certain essential traffic, particularly over difficult operating sections, preferential movement of such commodities was ordered under the powers conferred by Section 27 (A) of the Indian Railways Act, 1890.

Over the newly opened Assam Rail Link, connecting Assam with the rest of India, booking was regulated by quotas distributed by the Assam Rail Link Control Committee, Calcutta, owing to the capacity of the new route being limited.

Revised rules for the interchange of traffic between India and Pakistan ratified by both the Governments were brought into force with effect from 1 January 1951. The movement of goods traffic to Pakistan Railways was generally free under "paid-to-pay" system subject to Civil restrictions. The booking of cross traffic *viâ* Eastern Bengal Railway (East Pakistan) continued to be restricted.

33. **Transport of coal.**—During the year, the control and distribution of coal continued as before, through the Coal Commissioner's Office under the administrative control of the Ministry of Industry and Supply, and, with effect from 1 February 1951, under the control of the Ministry of Works, Production and Supply.

The loading in the West Bengal and Bihar and Orissa fields remained almost the same as in the previous year, while there had been a slight improvement in loading in the Madhya Pradesh, Vindhya Pradesh and Singareni fields.

The minimum loading target in the West Bengal and Bihar coalfields continued at 2,700 wagons a day till 10 June 1950, when it was raised to 2,900 wagons. The average daily loading during the period July 1950 to March 1951 exceeded the target by 57 wagons per day. During this period from about the middle of October to the first week of December 1950, the broad gauge wagon position was easy and a much larger number of empties was available on the East Indian and Bengal Nagpur Railways in the coalfields area than was availed of by the trade. The Coal Transport Officer and the Ministry of Industry and Supply were requested to make the maximum use of the easy wagon availability by stepping up allotments of coal to the maximum extent possible and compatible with the recommendations of the Railways. In spite of their efforts in this direction, the acceptable indents continued to be poor and the daily average loading remained low.

Indents for certain areas, namely, North Bihar and Western India metre gauge stations, including Saurashtra State, and South India, could not, however, be met in full owing to the paucity of metre gauge stock in the case of the first two and the necessity of accommodating foodgrains and other essential traffic within the rail capacity available in the case of movements to South India.

34. **Movement of certain commodities by special trains.**—Special goods trains continued to be operated during the year to carry specified commodities between certain stations. The percentage of the total wagon loads of traffic moved by such special trains on the broad gauge railways, increased from about 6·35 per cent in 1949-50 to about 8·24 per cent of the total wagon loadings, excluding coal, during the year under report.

35. **Volume of traffic handled.**—The all-round improvement reflected in the volume of traffic handled during 1949-50 continued during the current year. Net ton miles of goods traffic increased by 6·51 per cent over the previous year to 26,460 millions, and passenger miles increased by 4·59 per cent to 40,231 millions. The increase as compared with the pre-war figure, excluding the Bikaner, Assam, Eastern Punjab and East Indian (narrow gauge), was no less than 169·50 per cent under passenger and 43·94 per cent under goods. The increases registered under passenger and goods services on Class I Railways are shown in the table below:—

VOLUME OF TRAFFIC CARRIED ON CLASS I RAILWAYS NET TON MILES AND PASSENGER MILES

(Figures in millions)

	1938-9 (pre-war)	1949-50	1950-1	Increase or decrease % over 1938-9	Increase or decrease % over 1949-50
All Class I Railways—					
Net ton miles*	..	24,842	**26,460**	..	+6·51
Passenger miles	..	38,465	**40,231**	..	+4·59
Class I Railways excluding Bikaner, Assam, E. P. and E. I. (N. G.)—					
Net ton miles*	17,518	23,718	**25,216**	+43·94	**+6·32**
Passenger miles	13,359	34,643	**36,002**	+169·50	**+3.92**

* Excludes departmental.

36. Train Miles.—The train mileage run during the year was 166·05 millions, an increase of 6·14 millions or 3·84 per cent over the figure for 1949-50.

TRAIN MILES RUN DURING 1950-1 COMPARED WITH 1938-9 AND 1949-50

(Figures in thousands)

	1938-9 (pre-war)	1949-50	**1950-1**	Increase or decrease % over 1938-9	Increase or decrease % over 1949-50
All Class I Railways—					
Passenger (including proportion of mixed.)*	..	94,387	**98,631**	..	+4·50
Goods (including proportion of mixed) †	..	65,528	**67,421**	..	+2·89
Class I Railways excluding Bikaner, Assam, E. P. and E. I. (N. G.)—					
Passenger (including proportion of mixed.)*	83,365	84,344	**87,646**	+5·14	+3·91
Goods (including proportion of mixed) †	52,829	60,797	**62,322**	+17·97	+2·51

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, the mileage of electric locomotive and electric multiple trains as well as military specials, but excludes departmental trains.

† Includes mileage of electric locomotive trains, but excludes departmental.

Passenger train miles increased during the year by 4·50 per cent to 98·63 millions, as compared with an increase of 4·59 per cent in passenger miles. Goods train miles totalled 67·42 millions, representing an increase of 2·89 per cent over the figure for the previous year, which is approximately less than half the extent of the increase in the number of net ton miles during the year. Consequently, the average freight load of goods trains recorded an increase over that of the previous year.

The performance during the year (exclusive of Bikaner, Assam, Eastern Punjab and East Indian, Narrow Gauge, railways) as compared with 1938-9 indicates that railways carried 169·50 per cent more passenger traffic with only 5·14 per cent more of passenger train services, whilst 43·94 per cent more goods traffic was carried with an increase of only 17·97 per cent in goods train miles.

Detailed figures of train miles of Class I Railways are shown in Statements 17 and 32 and those of Class II and III Railways in Statement 37 of Volume II of this Report.

37. Shunting miles.—Unproductive engine miles, classified under the head 'other engine mileage', showed, during the year, a slight decline over the previous year from 23·1 to 22·9 per cent of the total engine mileage.

Shunting miles, forming the greater portion of such unproductive mileage, amounted to 15·0 per cent of the total engine miles as against 15·3 per cent during 1949-50. The following table shows the ratio per 100 train miles of passenger and goods shunting miles of Class I Railways during 1950-1 compared with 1949-50. It will be seen that as compared with the previous year less shunting miles were performed to move 100 train miles on both gauges.

SHUNTING MILEAGE DURING 1949-50 AND 1950-1: CLASS I RAILWAYS

Shunting miles per 100 train miles	1949-50	**1950-1**	Increase or decrease % over 1949-50
Passenger and proportion of mixed—			
Broad gauge	6·43	**6·13**	—4·67
Metre gauge	5·54	**5·42**	—2·17
Goods and proportion of mixed—			
Broad gauge	39·8	**39·8**	*Nil*
Metre gauge	43·3	**42·2**	—2·54

Other principal features of passenger and goods train operation of Class I Railways during the year have been referred to in the following paragraphs.

38. Passenger trains.—On the broad gauge, passenger train services increased by 4·23 per cent, vehicle miles by 4·34 per cent and passenger miles by 4·70 per cent. The corresponding percentage increases on the metre gauge are 4·65, 5·91 and 4·02 respectively. The increase in the train miles and vehicle miles on the metre gauge more than made up for the increase in passenger traffic, thus indicating some relief to overcrowding.

STATISTICS OF PASSENGER TRAFFIC: CLASS I RAILWAYS

(Figures in millions)

Particulars	Broad gauge		Increase or decrease % over 1949-50	Metre gauge		Increase or decrease % over 1949-50
	1949-50	**1950-1**		1949-50	**1950-1**	
Passenger miles	26,379·1	**27,618·9**	+4·70	11,633·8	**12,101·4**	+4·02
Coaching vehicle miles (including proportion of mixed).	917·2	**957·0**	+4·34	498·8	**528·3**	+5·91
Passenger train miles* (including proportion of mixed).	60·50	**63·06**	+4·23	31·38	**32·84**	+4·65

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, mileage of electric locomotives and electric multiple unit suburban trains as well as military specials but excludes departmental.

39. Punctuality of passenger trains.—Punctuality of passenger train services slightly deteriorated during 1950-1 as compared with 1949-50 on both broad and metre gauges.

The following table shows the percentage of passenger trains not losing time to the total number of trains run on all Class I Railways during 1950-1 as compared with 1949-50.

PERCENTAGE OF PASSENGER AND MIXED TRAINS NOT LOSING TIME

Year	All trains (inc. elec. multiple unit trains)	Mail and important through trains	Mixed trains	Suburban trains	Other passenger trains
	%	%	%	%	%
Broad gauge—					
1949-50		75·90	81·73	83·15 89·22*	74·34
1950-1	**79·79**	**69·83**	**79·89**	**78·40** **88·02***	**75·27**
Metre gauge—					
1949-50	76·72	67·33	80·60	84·79 91·24†	71·52
1950-1	**72·62**	**71·33**	**77·80**	**65·09** **82·34†**	**68·33**

* Electric multiple unit trains of the Bombay, Baroda and Central India and Great Indian Peninsula Railways.

† Electric multiple unit trains of the South Indian Railway.

40. Restoration of passenger train services.—Railway Administrations continued during the year their efforts to augment the train services and the existing facilities for passenger transportation. By 1 April 1951, the

passenger train services on Class I Railways, expressed in terms of train miles per day, had increased by about 8,020 on the broad gauge, and 5,814 on the metre gauge, as compared with the figures on 1 April 1950.

41. Goods trains.—As compared with the previous year, goods train miles on the broad gauge increased by 2·02 per cent, wagon miles by 0·65 per cent and net ton miles by 6·26 per cent. On the metre gauge, there has been an increase of 4·22 per cent in train miles, 6·75 per cent in wagon miles and 8·02 per cent in net ton miles. These figures reflect an increase in the pay load per train over both the gauges. The table below gives comparative figures for the pre-war year 1938-9, and for the years 1949-50 and 1950-1.

TRAIN MILES, TON MILES AND WAGON MILES, CLASS I RAILWAYS DURING 1938-9, 1949-50 AND 1950-1*

(Figures in millions)

—	1938-9 (pre-war)	1949-50	**1950-1**	Increase or decrease % over 1938-9	Increase or decrease % over 1949-50
BROAD GAUGE. All Class I Railways—					
Ton miles	..	21,703·5	**23,061·8**	..	+6·26
Wagon miles . . .	..	2,069·9	**2,083·4**	..	+0·65
Train miles—goods (including proportion of mixed).	..	47·01	**47·96**	..	+2·02
Class I Railways excluding E.P.—					
Ton miles	14,989·4	20,943·1	**22,299·5**	+48·77	+6·48
Wagon miles . . .	1,659·2	1,979·1	**2,005·5**	+20·87	+1·34
Train miles—goods (including proportion of mixed).	37·06	44·72	**45·89**	+23·83	+2·62
METRE GAUGE. All Class I Railways—					
Ton miles	..	3,010·8	**3,284·6**	..	+8·02
Wagon miles . . .	..	525·8	**561·3**	..	+6·75
Train miles—goods (including proportion of mixed).	..	16·84	**17·55**	..	+4·22
Class I Railways excluding Bikaner and Assam—					
Ton miles	2,465·6	2,684·3	**2,811·3**	+14·02	+4·73
Wagon miles . . .	516·1	462·1	**479·4**	—7·11	+3·74
Train miles—goods (including proportion of mixed).	14·66	14·72	**14·99**	+2·25	+1·83

* Excludes departmental.

42. Goods train speeds.—Speed of goods trains recorded a slight improvement on the broad gauge, rising from 10·7 miles per hour in 1949-50 to 10·8 miles in 1950-1. On the metre gauge, however, the average speeds declined from 9·56 in 1949-50 to 9·30 in 1950-1.

43. Goods train loads.—The average net load of goods trains (steam) over the broad gauge increased by 18 tons from 461 in 1949-50 to 479 in 1950-1, and on the metre gauge by 6 tons from 181 in 1949-50 to 187 in 1950-1.

44. Stock usage.—Efforts to improve the power position on Class I Railways resulted during the year in an increase in the number of engines employed daily on different services, in the total engine miles run, and in the engine user. It will be seen from the figures included in the accompanying table that on the broad gauge as against an increase of 1·95 per

cent in the average number of engines in daily use, the total engine miles run increased by 2·47 per cent. The engine miles per engine day in use improved from 106 miles in 1949-50 to 107 miles in 1950-1. On the metre gauge, the engine user remained constant at 105, which indicated a higher outturn of work in terms of engine miles.

STOCK USAGE ON CLASS I RAILWAYS

Particulars	Broad gauge		Inc. or dec. % over	Metre gauge		Inc. or dec. % over
	1949-50	**1950-1**	1949-50	1949-50	**1950-1**	1949-50
Average no. of engines in use daily on different services.	3,642	**3,713**	+1·95	1,638	**1,700**	+3·79
Total engine miles (in thousands).	140,116	**143,582**	+2·47	61,842	**64,525**	+4·34
Engine miles per day per engine in use.	106	**107**	+0·94	105	**105**	*Nil*

45. **Engine usage.**—Engine miles per day per engine on line (*i.e.*, inclusive of time occupied under repairs, etc.) reflected a slight improvement on the broad gauge from 75 miles in 1949-50 to 76 miles in 1950-1. On the metre gauge, it remained unchanged at 74 miles. The locomotive repair position also indicated improvement on the broad gauge where the percentage of locomotives under or awaiting repairs in Mechanical and Transportation workshops to the total number on line declined from 20 per cent in 1949-50 to 19 per cent in 1950-1. On the metre gauge, this percentage stood at 17 which was the same as during the previous year.

The amount of revenue-earning work done by locomotives expressed by the statistical unit 'net ton miles per goods locomotive day in use/on line' recorded further improvement on the broad gauge during the current year in comparison with the previous year. On the metre gauge, the striking increase effected during the previous year was generally maintained during the current year.

STATISTICS OF LOCOMOTIVE USAGE, CLASS I RAILWAYS

—	Net ton miles			
	Broad gauge		Metre gauge	
	Per goods locomotive day on line	Per goods locomotive day in use	Per goods locomotive day on line	Per goods locomotive day in use
1949-50	16,090	26,406	6,709	11,159
1950-1	**17,812**	**27,261**	**6,721**	**11,050**
Increase or decrease % over 1949-50 .	+10·70	+3·24	+0·18	—0·98

Details of engine usage are shown in Statement No. 22 of Volume II of this Report.

46. **Wagon usage.**—Further improvement was registered under wagon usage on both gauges of Class I Railways during the year. Wagons were hauled on an average of 38·7 and 31·8 miles a day on broad and metre gauges respectively, as against 38·1 and 29·7 miles during 1949-50.

The improvement in operation is also confirmed by the net ton miles moved per wagon day which increased on the broad gauge from 402 to 434 and on the metre gauge from 180 to 190.

The percentage of wagons under or awaiting repairs in Mechanical and Transportation workshops and sick lines to the total goods stock on line recorded a slight decrease on the broad gauge in that it dropped from 7·59 per cent in 1949-50 to 7·28 per cent in 1950-1. But on the metre gauge it increased from 8·25 per cent to 8·64 per cent.

47. Wagons loaded with 'Smalls'.—The number of wagons loaded with 'smalls' and its percentage to total traffic over both the gauges are brought out in the table below.

NUMBER OF WAGONS LOADED WITH 'SMALLS': CLASS I RAILWAYS

—	Number		Increase or decrease % over	Percentage of the total number of wagons loaded	
	1949-50	**1950-1**	1949-50	1949-50	**1950-1**
Broad gauge . . .	344,657	**340,373**	—1·24	8·47	**8·40**
Metre gauge . . .	305,223	**317,495**	+4·02	13·15	**13·23**

48. Improvement in marshalling and other yards and their working.—On the Oudh Tirhut Railway a new broad/metre gauge transhipment yard was provided at Manduadih.

On the Mysore Railway, remodelling of Bangalore City station (metre gauge) yard was taken up and good progress was made during the year. The remodelling of Arsikere yard was completed except for the provision of signalling arrangements.

On the East Indian Railway, remodelling of Tundla yard and additions and alterations to goods yard at Bhagalpur were sanctioned.

49. Wagon position, Broad Gauge Wagon Pool.—The number of public service wagons (in terms of four-wheelers) in use on all Indian Railways in the Wagon Pool at the end of the year was 154,004, *i.e.*, 458 less than that at the end of the previous year. The total number of wagons loaded with goods traffic during 1950-1 was 4,036,506, showing a decrease of 13,107 wagons or 0·3 per cent as compared with the previous year. This small decrease was mainly due to a large number of wagons being temporarily out of service during the early part of the year under review. Effective action was taken by the Railway Board to reduce their number and in consequence the loading increased during the latter half of the year. Demands from time to time on some railways exceeded the available wagon supply.

50. Wagon position, Metre Gauge Wagon Pools—

(a) *Northern.*—The number of public service wagons (in terms of four-wheelers) in use on all Indian Railways on 31 March 1951, including reconditioned W. D. stock was 37,381, *i.e.*, 545 more than that at the end of the year 1949-50. The wagon position continued to be difficult as the demands were much in excess of the wagon supply. The total number of wagons loaded with goods traffic during the year was 1,591,814, *i.e.*, an increase of 73,921 or 4·9 per cent as compared with the previous year.

(b) *Southern.*—The total number of public service wagons owned by Madras and Southern Mahratta, Mysore and South Indian Railways at the end of the year was 12,761, *i.e.*, 47 wagons more than that at the end of the previous year. In addition, 763 wagons including 266 W. D. and 497 belonging to Northern Metre Gauge Railways were in use on these Railways. The total number of wagons loaded with goods traffic during the year was 840,658, *i.e.*, an increase of 1·01 per cent. The wagon position was satisfactory until the latter half of the year when movement of foodgrains traffic to deficit areas in South India increased with some incidental difficulties in meeting the demands.

51. Interchange with Pakistan Railways.—During the year, Indian Railways made over to the Pakistan Railways 41,677 broad gauge wagons including 12,606 loaded. Of the 5,271 metre gauge wagons made over to Pakistan Railways, 1,298 were loaded. The total number of wagons received from them was 41,802 broad gauge, including 34,878 loaded and 6,006 metre gauge of which 2,268 were loaded. On an average the Pakistan Railways were creditor by 71 broad gauge wagons and debtor by 220 metre gauge wagons a day to the Indian Railways.

52. Neutral control of examination of wagons at interchange junctions, etc.—The system of neutral control of wagon examination under the Director of Wagon Interchange, was in force at the following stations:—

(i) Interchange Junctions—

Broad gauge	*Metre gauge*
Ajni (Nagpur)	Katihar (from 26-1-1951)
Chheoki	Kanpur (C. P. A.) (from 20-2-1951)
Ghaziabad	Lalmanirhat*
Khanalampura	Badarpur*
New Delhi	Parbatipur*
Waltair	
East Dock Junction	
Wadi (from 8-2-1951)	
Kanpur (G. M. C.) (from 13-2-1951)	
Gomoh (from 25-2-1951)	
Balharshah (from 1-3-1951)	
Atari*	
Bongaon*	
Macleod Ganj Road*	
Ranaghat*	

(ii) Workshops—

Lillooah

Jhansi

Matunga (from 22-2-1951)

Parel (Mahalaxmi) (from 1-3-1951)

Moghalpura†

(iii) Marshalling Yard—

Moghalsarai (from 22-1-1951).

* Neutral control was discontinued and the staff withdrawn from 1 January 1951.

† Neutral control staff were withdrawn from 1 December 1950.

53. Coal supply and coal stock position.—The stock of steam coal on Class I Railways which stood at a level of 21·5 days' consumption requirements at the beginning of the year declined to a level of 20·1 days by 10 May 1950. Later on the stock position improved steadily till it reached a level of 26·3 days' consumption requirements by 20 November 1950. It started deteriorating thereafter. The principal reasons for the deterioration were as follows:—

(*a*) short loading from the outlying fields during the month of November 1950 on account of imposition of restrictions, quota limitations, etc.;

(*b*) short loadings from Bengal and Bihar fields during December 1950 because of the inability on the part of the Coal Commissioner to step up the wagon allotment to the figures recommended by Railway Administrations;

(*c*) shortfall in loading during February 1951 on account of less materialization of empties in Bengal and Bihar coalfields owing to low wagon balance.

These factors resulted in the stocks being reduced to a level of 16·3 days' consumption requirements at the close of the year.

Although the coal trade stressed the acceptance of higher proportion of Grade II coals for use on the Railways, this was objected to. The inadvisability of this step was brought home to them and the deterioration in the general quality of coal supplied to railways was avoided.

Steps were also taken to reduce the number of collieries supplying coal to railways so that the quality of coal could be checked at the starting points as well as at the sheds.

It was agreed to give up the entire supply of metallurgical coking coal gradually, provided it could be replaced by coal of equivalent calorific value from outlying fields and the reduction was in proportion to that of other industries, but this could not be implemented by the Coal Commissioner.

B.—COMMERCIAL

54. Alterations in rates and fares—

Goods.—The more important changes in freight rates during the year are summarized below:—

(*a*) Extension without time-limit of the concessional rates for hand-loom cloth including *Khaddar,* hand-spun or hand-woven, not press-packed, *viz.,* 10th class at Railway Risk and 9th class at Owner's Risk which had previously been sanctioned up to 31 March 1951.

(*b*) Cancellation of special rates for sand from Bundi Road and Sawai Madhopur on the Bombay, Baroda and Central India Railway to certain glass manufacturing centres in the Uttar Pradesh and also from certain Great Indian Peninsula Railway stations to Lucknow.

(*c*) Exclusion of iron or steel pipes from the special rates for Iron or Steel Division "B" from Tatanagar to certain East Indian and other railway stations.

(*d*) Introduction of special rates for kerosene or paraffin oil from Tinsukia to certain stations on the East Indian, Great Indian Peninsula, and Eastern Punjab Railways *viâ* the Assam Rail Link.

(*e*) Grant of concession at half the basic rates (excluding terminal, transhipment and ferry charges, etc.) for certain commodities for relief purposes to certain nominated consignees in earthquake affected areas in Assam. A special concessional rate equal to one-fourth of the tariff rate was also granted for the transport of galvanized corrugated iron sheets from Tatanagar to the earthquake affected areas in Assam.

(*f*) Introduction of through special rates for jute from certain important jute booking stations on the Assam Railway to Kanpur.

(*g*) Special rates prescribed for the carriage of fodder or forage during the periods of fodder scarcity were applied to traffic from certain stations on the Great Indian Peninsula Railway to stations in Sholapur (Great Indian Peninsula), Bijapur, Bagalkot and Indi Road (Madras and Southern Mahratta) districts of the Bombay State.

(*h*) Withdrawal over the Bombay, Baroda and Central India Railway of special rates for cotton from Bombay to Broach, Nadiad, Kalol, Petlad, Baroda, etc.

(*i*) Cancellation of special rates for manganese ore from Shivrajpur, Dohad and Meghnagar to Bombay.

(*j*) Introduction of special rates over the Bikaner State Railway for compost manure from Bikaner to certain stations in the Canal area to assist the "Grow More Food Campaign".

(*k*) Grant of concessional rates for the transport of sugarcane to Sri Ganganagar to assist the only sugar mill in the area.

Coaching.—The following important changes in coaching rates and fares were introduced during the year :—

Passenger.—With effect from 20 June 1950, concessional First and Second class return tickets available for two months were introduced as an experimental basis between certain stations on the Eastern Punjab Railway to Simla and between any two stations on the Kalka-Simla section.

First and Second class mileage coupon tickets at reduced fares, issued in book form, to correspondents accredited to the headquarters of the Government of India to cover journeys totalling 1,000 miles, performed on the business connected with *bonâ fide* press work, were introduced with effect from 1 September 1950.

With effect from 1 October 1950, a special kind of Third class monthly season ticket was introduced by the Eastern Punjab Railway as an experimental measure to *bonâ fide* produce vendors travelling from certain stations to Delhi and back to enable them to carry their produce to the market.

Parcels.—A special scale of charges for registered newspapers was introduced with effect from 15 April 1950.

The special reduced half-parcels rates, introduced with effect from 1 November 1949 for handloom cloth, was continued.

The special reduced quarter-parcels rate for fresh fruits, introduced with effect from 1 August 1949 on the Indian Government Railways, both in local and through booking with foreign railways, continued to operate during the year under review. From 1 October 1950, quarter-parcels rate for fresh fruits was introduced over the erstwhile Indian States' Railways also.

Other coaching traffic.—From 1 September 1950, charges for Tourist Cars and Saloons were reduced.

From 1 October 1950, charges for Third class (Broad Gauge) bogie tourist cars were reduced.

55. Effect of changes in rates and fares—

Goods traffic.—No major change in the goods rates structure was introduced during the year under review. This was, however, the second year in which the revised rating structure introduced with effect from 1 October 1948 operated throughout. There was a further increase in the net ton miles carried from 25,119 millions in 1949-50 to 26,697 millions in 1950-1, a fact which supports the earlier anticipations that the revised rates structure would have no adverse effect on traffic movements.

Passenger traffic.—There was no change in the bases of passenger fares during the year under review. There was a further increase in the number of passengers carried and in the earnings derived from passenger traffic as will be seen from the table below :

(In thousands)

		1949-50	1950-1
Number of passengers carried . . .		1,239,891	1,299,414
Earnings	Rs.	91,18,17	95,37,29

56. Efforts to secure better wagon usage and wagon loads.—In order to secure better usage of wagons and improved wagon loads, railways adopted special measures, such as giving wagons the maximum starting load, checking the loads given to wagons at transhipment points and attaching wagon load conditions to wagon load rates. The minimum load condition of 250 maunds per through broad gauge road van which was prescribed last year was continued during the year under review. For metre gauge wagons, a minimum load of 130 maunds per wagon was prescribed in addition. The system of nominated loading was also continued during the year.

57. Co-ordination of rail, road and water transport—

Bombay.—The nationalization of road passenger transport in the rural areas of the Bombay State made steady progress during the year. The organization showed satisfactory financial results in addition to providing an efficient, comfortable, regular and punctual service at reasonable rates. Consequent upon the Corporation being considered by the Bombay High Court as illegally constituted, the undertaking was run departmentally by the Bombay Government for five weeks. The passing of the Road Transport Act, 1950, by the Parliament, however, regularized the existing Corporation. At the end of the year, the Central Government investment at 25 per cent of the total invested capital amounted to Rs. 133·33 lakhs.

Madhya Pradesh.—The existing two co-ordinated road transport companies at Nagpur, *viz.*, the Central Provinces Transport Services Ltd., and the Provincial Transport Co., Ltd., continued to show improved working. As a result, the authorized capital of the Provincial Transport Co., Ltd., was increased from Rs. 10 lakhs to Rs. 30 lakhs, in other words an addition of Rs. 20 lakhs was made, of which Rs. 15 lakhs were subscribed during the year under review. A sum of Rs. 3·75 lakhs, representing 25 per cent of this amount, was invested by the Railways. The remaining Rs. 5 lakhs of the additional capital of Rs. 20 lakhs are to be issued in 1951-2.

Orissa.—The Orissa Road Transport Company was inaugurated on 1 January 1951 with an authorized capital of Rs. 35 lakhs. The Railway investment was Rs. 3 lakhs, representing 20 per cent of the initially issued capital of the company. The operation of the company was confined to the Ganjam zone—one of the five zones into which the State of Orissa has been divided for the development of road transport services.

Hyderabad.—As a result of the integration of the Nizam's State Railway with the Indian Government Railways with effect from 1 April 1950, it was decided, as a purely temporary measure, that with effect from that date the Nizam's State Railway would work the Hyderabad Road Transport Department on an agency basis.

In order to meet the situation arising out of the continued suspension of through traffic to Indian territory across Eastern Pakistan and to supplement the capacity of the All-India Assam Rail Link route, steps were taken to co-ordinate movements of essential traffic, such as, Iron or Steel Divisions A and B, cement, and piecegoods by the rail-*cum*-steamer-*cum*-rail route to the maximum extent possible from certain stations on the Bengal Nagpur, East Indian and Madras and Southern Mahratta Railways to stations on the

Assam Railway *viâ* 'C' shed Sunderbans or *viâ* Shalimar Sunderbans and the various river ghats in Assam, such as Dhubri Ghat, Amingaon Ghat, Pandu Steamer Ghat, Neamati Ghat and Dibrumukh.

With the same object in view, a new rail-*cum*-steamer route was also opened from 1 August 1950 for through booking of goods traffic from certain stations on the Assam Railway in the Cachar District to Calcutta Steamer Ghat and *vice versâ viâ* Karimganj.

58. Closer contacts with industrial and trade interests.—Railways continued to maintain close contact with trade, commerce and industry, and informal meetings were held with representatives of chambers of commerce, trade associations and merchants at important centres. Discussions at these meetings included subjects such as booking and transport facilities, delays in goods transit, settlement of claims, etc. The contacts with business people afforded a useful means of fostering better relations and understanding between the railways and commercial interests.

59. Claims for compensation and refunds.—The number of claims which remained unsettled on Class I Railways at the end of the year 1950-1 was 69,891 as against 72,018 at the end of 1949-50. The improvement in the position would have been appreciably greater but for the increase in thefts and pilferage. The net amount paid by Railways during the year under review on account of goods lost or damaged was Rs. 3,11,73,233 as against Rs. 3,67,21,792 paid in 1949-50. The improvement has been made possible, as the result of a concentrated drive for claims prevention launched by Railways and also better supervision of commercial work at stations and goods sheds.

The average time taken in the settlement of a claim has also been brought down to 75 days from 94 days last year. Although there has been a decrease in the number and amount of claims paid on account of goods, parcels and luggage lost while in transit by rail, the number of claims paid on account of goods stolen, damaged by wet, fire and breakages is on the increase. The measures taken to bring down the number of claims on account of goods stolen are stated in the next paragraph.

The number of suits filed and those which remained unsettled at the close of the year under review was 42,388 and 13,196 respectively as against 69,751 and 25,153 at the end of the year 1949-50. This reduction was brought about as a result of prompt disposal and after careful scrutiny, repudiation of claims where justified, and elimination of infructuous litigation.

The following statements for Class I Railways show for 1950-1:

(*a*) the number of claims received in respect of goods or parcels damaged or lost and of goods and parcels overcharged and the average time taken in their settlement;

(*b*) the number and value of claims in respect of goods or parcels lost or damaged under the main causes;

(*c*) the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.

STATEMENT A

Claims received for goods or parcels damaged, lost or overcharged, and the average time for settlement

Item No.	Particulars	Assam	B. N.	Bikaner	B.B. & C.I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore	N. S.	O. T.	S. I.	Total all railways
(1)	Number of claims involving compensation for goods or parcels lost, damaged, or delayed, carried over as unsettled at the close of the preceding year	5,933	14,004	3,833	7,060	14,899	2,574	13,117	4,517	3,835	1,761	1,787	4,495	1,424	79,239
(2)	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year	23,420	52,113	4,117	41,033	84,898	23,464	48,610	4,318	22,576	5,082	5,310	19,432	12,227	346,600
(3)	Number of claims referred to against (items 1 & 2) settled during the year	21,663	54,327	4,773	44,110	84,249	24,305	50,923	7,392	21,650	5,455	5,997	19,864	11,180	355,888
(4)	Balance outstanding as unsettled at the close of the year	7,690	11,790	3,117	3,983	15,548	1,733	10,804	1,443	4,761	1,388	1,100	4,063	2,471	69,891
(5)	Net amount paid in compensation Rs.	9,00,419	68,50,674	1,04,289	37,22,017	81,04,387	11,80,206	39,06,109	1,75,163	9,86,533	4,55,008	3,84,453	42,40,416	1,63,559	3,11,73,233
(6)	Percentage of sum paid in compensation (item 5) to gross earnings	1·85	3·12	1·80	1·82	2·06	0·90	1·36	1·97	0·42	3·89	0·97	7·43	0·18	1·80
(7)	Average time taken in settlement of claims shown against items (1) & (2) (days)	41	77	79	98	61	65	87	81	70	102	137	77	51	75
(8)	Number of applications received for refunds on goods and parcels overcharged	7,054	6,517	1,687	20,555	39,005	13,650	13,960	2,660	20,947	4,427	3,482	7,199	27,573	168,716
(9)	Average time taken in settlement of claims shown against item (8) (days)	71	163	60	85	83	35	80	112	48	98	221	75	32	78

STATEMENT B

Number and Value of Claims Paid

Item No.	Particulars		Assam	B. N.	Bikaner	B.B. & C.I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore	N. S.	O. T.	S. I.	‡Total all railways
(1)	Claims paid on account of goods lost	No.	694	10,113	971	10,860	20,396	431	15,980	1,534	3,313	Not available	54	1,667	2,718	68,731
		Value (Rs.)	2,38,469	21,96,755	44,410	16,16,051	88,23,243	39,026	21,62,157	2,09,602	5,41,981		7,655	9,26,668	1,04,744	1,69,10,761
(2)	Claims paid on account of goods stolen	No.	65	13,517	2	23	3,361	6	*	60	83		190	5,965	27	23,299
		Value (Rs.)	26,723	21,31,798	105	13,614	5,84,150	3,575	*	4,378	33,762		42,209	13,07,084	3,130	41,50,528
(3)	Claims paid on account of goods damaged by wet	No.	38	1,113	72	1,778	2,537	2	3,435	44	213		50	113	133	9,528
		Value (Rs.)	12,002	3,67,238	4,533	3,02,025	6,24,266	202	1,97,924	7,036	64,080		10,202	36,696	9,475	16,35,679
(4)	Claims paid on account of goods damaged by fire	No.	..	9	..	45	12	1	..	..	2		5	11	1	86
		Value (Rs.)	..	8,158	..	47,338	6,166	66	..	..	2,342		6,968	14,364	28	85,430
(5)	Claims paid on account of goods damaged by breakage	No.	5	46	897	24	724	15	637	..	98		510	67	67	3,090
		Value (Rs.)	366	5,408	35,691	2,993	72,269	1,545	78,739	..	15,516		15,547	6,398	1,875	2,36.347
(6)	Claims paid on account of parcels and luggage lost and stolen	No.	643	8,396	295	4,585	3,727	†	2,304	295	1,496		148	3,445	655	25,989
		Value (Rs.)	1,89,738	11,06,940	9,179	5,54,540	4,08,051	†	1,13,107	52,762	2,03,415		19,945	5,71,936	41,516	32,71,129
(7)	Claims paid on account of other causes	No.	1,169	2,878	82	10,195	684	746	4,404	143	4,908		1,248	1,819	1,986	30,262
		Value (Rs.)	4,33,121	10,64,335	4,217	22,01,325	69,362	58,733	4,87,179	28,688	4,72,803		1,19,989	14,09,927	6,22,160	69,71,839

* Included in item 1.
† Included under items 1 and 2.
‡ Exclusive of Mysore Railway since particulars of claims by different causes are not available.

STATEMENT C

Number of Court Cases in respect of Claims and their Disposal

Item No.	Particulars	Assam	B. N.	Bikaner	B.B. & C.I.	E. I.	E. P.	G. I. P.	Jodhpur	M. & S. M.	Mysore	N. S.	O. T.	S. I.	Total all railways
(1)	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect of goods or parcels lost, damaged or delayed	3,253	3,986	46	5,736	13,419	893	5,540	45	2,545	102	191	6,389	243	42,388
(2)	Number of such suits settled out of court §	1,051	2,858	4	2,981	3,974	265	2,335	4	846	49	21	2,818	84	17,290
(3)	Number of suits dismissed	125	170	13	1,436	2,737	219	1,168	2	222	78	3	278	22	6,473
(4)	Number of suits decreed	336	106	1	473	2,831	132	879	3	203	74	2	707	7	5,754
(5)	Number of suits pending	1,741	852	28	849	3,877	277	1,158	36	1,274	223	165	2,586	130	13,196

60. Special drive for disposal of arrear compensation claims, for prevention of claims and problems created by partition.—Railways were able to make considerable headway in the liquidation of arrear claims and in the disposal of current claims. The number of claims which remained unsettled at the end of the year under review represented less than the intake of three months' claims generally received on all Class I Railways. The position would have been better but for the continued incidence of running train and other thefts.

The drive for the prevention of claims was intensified during the year under review. Running train and other thefts constituted a major problem for railways. In areas where such crimes were frequent, goods trains were escorted by armed police at night and the track was patrolled. Such areas were brought to the notice of not only the Railway police but also the local civil and police authorities with the object of tracking down the culprits who often operate over wide areas in organized gangs. The following steps were among other measures taken by railways to minimize these thefts:

(*a*) Strengthening, reorganization and proper selection and training of the watch and ward staff

(*b*) Use of Ellis patent and other locks for locking of wagons containing certain selected commodities in which thefts frequently occurred in station yards and handing over of charge of such wagons from running staff to watch and ward staff and *vice versâ*

(*c*) Educative propaganda amongst the staff to train them in the proper method of handling of goods, to create in them a sense of alertness, and to stimulate interest in regard to the security of goods entrusted to the care of railways.

The assistance of the State Governments and the Ministry of Home Affairs was also sought in putting an end to activities of these elements.

The progress in the settlement of pre-partition claim cases was maintained during the year under review.

61. Ticketless travel.—The measures for the prevention of ticketless travel referred to in the last report, including the special arrangements made in Uttar Pradesh in conjunction with the State Government for check and prevention of ticketless travel, were continued during the year under review. The arrangements made by the Government of Bombay for providing additional police in furtherance of the special measures for prevention of ticketless travel adopted by the Great Indian Peninsula Railway were also continued. The number of passengers detected travelling without passes or tickets and the amounts realized from them during the period were 8,714,862 and Rs. 1,71,01,310 respectively, the corresponding figures for the previous year being 7,805,913 and Rs. 1,73,45,788.

62. *Mela* traffic.—During the year the usual annual fairs were held at different stations for which necessary lighting, watering, sanitary and police arrangements were made.

The Kumbh *Mela* at Hardwar referred to in the last report was held during March-April 1950. As this *mela* was held after 12 years, it naturally attracted a large volume of pilgrim traffic. For the assemblage and dispersal of traffic to this *mela,* 299 special trains for inward and 352 for outward traffic were run. The composition of scheduled trains was also strengthened as found necessary.

On account of the special attention being paid to sanitation, there was no outbreak of epidemic diseases in any *mela* during the year under review.

63. Measures to ensure civility and assistance on the part of railway staff in their dealings with the public.—Railway Administrations continued their efforts to educate the staff to treat the travelling public with courtesy and helpfulness. Serious and prompt notice was taken of all complaints received from the public in this connection. Mention should also be made of instances of exceptional services or assistance rendered which were appreciated and encouraged.

64. Measures taken to foster tourist traffic.—The measures to encourage and develop tourist traffic to which reference was made in the last report were continued during the year. Special attention was given to the improvement of existing retiring rooms at carefully selected tourist centres as well as to provision of retiring rooms where they did not exist. Mention may be made of the retiring room at Pathankot station for the convenience of tourists *en route* to Kashmir. Catering was another matter which engaged the close attention of Railway Administrations to satisfy, as far as possible, the needs of foreign and local tourist traffic.

A special 'Tourist Introduction Card' was issued to foreign tourists which would enable them to secure the good offices of Government servants generally, and, in particular, to obtain certain essential facilities, *e.g.*, prompt customs clearance, a drink permit, and reasonable quantities of petrol for motor cars. State Governments agreed to relax prohibition laws in the case of *bonâ fide* tourists.

Special trains in connection with the study tours of the delegates (mostly foreigners) for the Engineering Conferences held in 1950-1 and for the tourists arriving by steamer 'Caronia' were successfully organized. The facilities provided have met with appreciation.

CHAPTER IV

NEW CONSTRUCTIONS AND ENGINEERING WORKS

65. Capital expenditure.—At the end of March 1951, the total capital-at-charge of all railways, including lines under construction, amounted to Rs. 838·17 crores, of which Rs. 827·04 crores represented the capital-at-charge of Indian Government Railways, inclusive of the premia paid on the purchase of certain companies' lines. The balance of Rs. 11·13 crores was the capital raised by Indian States, Companies and District Boards.

The figure of capital-at-charge of Indian Government Railways, which is provisional, pending closing of the pre-partition accounts, and the finalization of the balances to be brought forward on 1 April 1950 in case of *ex*-States Railways and comprises the following items:—

	£
Liability and debt incurred in the purchase of railways .	131,164,798
Less Liability and debt cancelled by the operation of annuities and sinking funds	23,756,284
Net amount outstanding	107,408,514
	Rs.
Direct expenditure by Government (in thousands) . .	6,83,82,21
Amount in sterling converted into rupees (in thousands)	1,43,21,58*
GRAND TOTAL . . .	8,27,03,79

By far the greater portion of this amount, namely, Rs. 826,20,32,000, is Government capital and only a sum of Rs. 83,47,000 is owned by Indian States, etc.

The total capital outlay on all railways during 1950-1 was Rs. 25·60 crores, of which Rs. 25·41 crores related to Indian Government Railways.

The distribution of the capital outlay in 1950-1 over the different Indian Government Railways is shown in the following statement:—

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1950-1

(Figures in lakhs of rupees)

Railways	Open lines			New lines			Grand total
	Works, etc.	Rolling-stock	Total	Works, etc.	Rolling-stock	Total	
Assam	1,01	3	1,04	..	..	..	1,04
Assam Rail Link Project .	23	..	23	1,21	..	1,21	1,44
Bengal Nagpur . . .	66	17	83	4	..	4	87
Bikaner State . . .	76	..	76	..	..	..	76
Bombay, Baroda and Central India	2,52	1,34	3,86	..	..	..	3,86
East Indian . . .	1,60	58	2,18	26	..	26	2,44

* The amounts, £2,575,000, £2,000,000, £1,500,000 and £1,000,000, representing the share capital respectively of the Great Indian Peninsula, the Bombay, Baroda and Central India, the Madras and Southern Mahratta and the South Indian Railways (the first two amounts being paid off during 1925-6 and 1941-2 respectively, and the last two during 1944-5) have been converted at appropriate average rate of exchange for those years and the balance of £100,333,514 at the rate of 1s. 6d. to the rupee.

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1950-1—*contd.*

(Figures in lakhs of rupees)

Railways	Open lines			New lines			Grand total
	Works, etc.	Rolling-stock	Total	Works, etc.	Rolling-stock	Total	
Eastern Punjab	1,47	—48	99	2 1,23	..	2* 1,23†	2,24
Great Indian Peninsula	3,35	—59	2,76	..	..	..	2,76
Jodhpur	—1	..	—1	..	..	..	—1
Madras and Southern Mahratta	1,36	—31	1,05	..	..	..	1,05
Mysore State	—11	13	2	..	..	..	2
Nizam's State	40	14	54	..	..	..	54
Oudh Tirhut	1,20	31	1,51	..	..	..	1,51
Saurashtra	—9	6	—3	..	..	..	—3
South Indian	26	39	65	..	..	..	65
Cutch State	1	..	1	..	..	..	1
Dholpur	..	..	..	..	..	..	..
Jaipur State	5	2	7	22	25	47	54
Rajasthan	—3	1	—2	1	..	1	—1
Scindia State	1	..	1	..	..	..	1
Coal Department	26	..	26	..	..	..	26
Chittaranjan Locomotive Works	6,16	..	6,16	..	..	..	6,16
TOTAL	20,37	1,80	22,17	2,99	25	3,24	25,41

* Commercial. † Strategic.

66. Mileage of lines opened or sanctioned in 1950-1.—The following line was sanctioned for construction during the year:—

Arantangi-Karaikudi, South Indian Railway, 17·07 miles.

The new lines opened during the year to public traffic represented an addition of 65·62 miles. The details of the new lines are shown in the accompanying statement.

MILEAGE OF LINES OPENED DURING 1950-1

Railway	Name of line	Mileage	Gauge	Date of opening
Nizam's State	Mudkhed-Adilabad Branch*—			
	Kinwat-Adilabad Section	28·25	Broad	12-5-50
Jaipur State	Sanganer Town-Sawai Mangarh Extension†—			
	Phagi-Diggi Section	15·99	Metre	9-1-50
Saurashtra	Kanalus-Gop Extension—			
	Kanalus-Gop	21·38	Metre	9-3-51
	TOTAL	65.62		

* The line between Mudkhed and Kinwat had been opened prior to 1950-1.

† Sanganer Town-Phagi Section had been opened prior to 1950-1.

67. Lines under construction during 1950-1.—Four new lines, adding up to a total mileage of 250·96, were under construction during the year. The details of the lines are shown below:—

Railway	Name of section	Mileage under construction
	Sanganer Town-Sawai Mangarh Extension—	
Jaipur State	Diggi-Todarai Singh Section	27·79
Bombay, Baroda and Central India	Kandla-Deesa	170·04
Eastern Punjab	Mukerian-Pathankot	26·86
South Indian	Arantangi-Karaikudi	17·07
	Sulur-Singanallur to Coimbatore North	9·20
	TOTAL	250·96

68. New surveys.—Six surveys, aggregating about 203·59 miles, were sanctioned during the year. The details of the proposed lines, nature of the survey, the gauge and the mileage are shown below.

Railway	Nature of survey	Gauge	Mileage
Bengal Nagpur Champa Branch-Korba Coal fields	Final location	Broad	22·50
Bombay, Baroda and Central India Pihij-Nadiad	Engineering	Narrow	4·00
Saurashtra Gop-Katkola	Engineering and Traffic	Metre	20·09
Rajkot-Jasdan	Traffic	Metre	37·00
South Indian Quilon-Ernakulam	Engineering and Traffic	Broad and Metre	120·00
		TOTAL	203·59

69. Lines closed during 1950-1.—No lines were closed during the year.

70. Damage caused to Railways by earthquake, floods and cyclone.—The following table gives the extent and character of the more important damages caused by earthquake, floods and cyclone during the year. The severest damage, as already referred to earlier, was caused on the Assam Railway amounting to Rs. 43 lakhs, out of which the violent earthquake in Upper Assam on 15 August 1950 alone accounted for Rs. 20 lakhs. The rest was mainly due to very heavy rainfall which broke all previous records in Darjeeling and Jalpaiguri districts of West Bengal in June 1950, when in some places rainfall amounting to as much as 18 inches was recorded on one day, namely, 12 June 1950. The next instance of severe damage was on the Bengal Nagpur Railway, and involved an expenditure of Rs. 11·96 lakhs, of which Rs. 9·04 lakhs was due to severe cyclonic weather in South Bihar and West Bengal during June 1950.

The other cases of damage were due to floods. The Oudh Tirhut Railway also suffered considerable damage amounting to Rs. 8,42,517 mainly in connection with the protection works to some of the bridges of which an expenditure of Rs. 6 lakhs is attributable to Kosi River area. Interruption to communications, however, was avoided. Exceptionally heavy and incessant rains in Gujerat and Saurashtra and also in North-West Punjab caused considerable damage on Saurashtra, Bombay, Baroda and Central India and Eastern Punjab Railways.

Railway	Sections affected	Character and extent of damage	Date	Duration of interruption to through communi-cations	Total approximate cost of re-pairing damages, etc.
					Rs.
Assam	Matigara-Bagdogra, Gulma-Sevoke, Sevoke-Bagrakote, Madarihat-Hasimara, Kamakhyaguri-Jorai, Mal-Damohani, Damohani-Barnes Ghat, Jalpaiguri-Haldibari, D. H. Rly. and Sevoke-Gielle Khola	In June 1950 there was exceptionally heavy rainfall in Darjeeling and Jalpaigur Districts of West Bengal, which broke all previous records. The total rainfall recorded at Sevoke between 10 and 13 June was over 27 inches with a maximum of approximately 13 inches on 12 June; at Kurseong about 33 inches with a maximum of 20·5 inches on 11 June, and at Darjeeling about 33 inches with a maximum of nearly 18 inches on 12 June. Landslides and unprecedented floods followed as a result and disrupted rail and road communications. Both the approaches to Tista Bridge were breached by heavy floods. The Balsan and Holong Bridges were also breached by heavy floods.	9-6-50 to 13-6-50	Varying from 8 days to 11 months. (The breaches between Gulma-Sevoke and Sevoke-Bagrakote were repaired and through communication restored after 52 days, while that between Domohani-Barnes Ghat was restored on 11-5-51 and the line between Sevoke-Gielle Khola was completely abandoned).	23,00,000
	Margherita-Ledo, Makum Jn.-Saikhoa Ghat, Simaluguri-Tinsukia, Mariani-Duklangia, Rangapara North-Mismari, Simaluguri-Moranhat, Ledo-Lekhapani and Simaluguri-Naginimora	At about 19·45 on the Independence Day, there was a very violent earthquake in Upper Assam, the epicentre of which was reported to lie a few miles outside India in North East Corner. The earthquake lasted nearly five minutes and caused extensive damages all over the countryside. The damages to railway property were extensive. Track at many places subsided and became unsafe. The Dehing Bridge—7 spans of 150′ each between Naharkatiya-Bordubi Road on the Simaluguri-Tinsukia Section was badly shaken and roller bearings of girders were dislodged. The approaches of several other bridges like the Tangrai bridge near Tinsukia had subsided.	15-8-50	8 days (Except the section between Makum Jn. to Saikhoa Ghat. The section between Makum Jn. to Talap was restored on 7-9-50, up to Dangari on 21-9-50 and up to Saikhoa Ghat on 1-10-50).	20,00,000
B. N.	Howrah-Kharagpur, Kharagpur-Chakradharpur, Kharagpur-Adra, Asansol-Sini	Owing to severe cyclonic weather, considerable damage was caused to roofs of buildings to various stations. Some damage was also caused to track, bridges and other structures.	10-6-50	Negligible	8,20,000

Railway	Sections affected	Character and extent of damage	Date	Duration of interruption to through communications	Total approximate cost of repairing damages, etc.
					Rs.
B.N.—*contd.*	Rourkela-Birmitrapur	Sudden floods after the bursting of neighbouring tanks in consequence of heavy local rainfall washed away two arches of the surcharged arch-bridge No. 56 at mile 273/3-4.	9-7-50	8 days . .	85,000
	Bhadrak- Khurda Road	As a result of continuously heavy local rainfall, the track, from mile 236/1 to mile 237/12, was submerged under water. With the subsidence of water, the formation was found to be scoured throughout this length.	9-8-50	Negligible . .	47,000
	Kharagpur- Tatanagar	Very heavy local rainfall and in consequence, (*a*) the flooding of river Buhung, breached the formation behind the East abutment of bridge No. 94 at mile 104/1, and (*b*) high floods in Kosoti river breached 400 feet length of bank at mile 129/5-7 and washed away both wingwalls of Kosoti bridge No. 69 at mile 129/14.	11-8-50 11-8-50	1 day . . 8 days . .	1,40,000
	Kharagpur - Midnapur	Due to heavy rainfall the Cossye river was in flood and overflowed its banks scouring the formation.	12-8-50	*Nil* . . .	20,000
	Garden Reach	In consequence of storm and cyclone, the steam launch "Evelyn" while berthed and secured alongside S.L. "Isabel" at B. N. Railway Club Jetty launch pontoon at Garden Reach sank at about 1·15 P.M.	10-6-50	....	84,000
B.B. & C.I.	Anand-Mehmadabad (new down line)	Ballast and earth work were washed away at several places owing to exceptionally heavy rains.	8-7-50	No interruption. (Single line working was introduced for about a month).	1,21,000
	Bavla-Moraiya (Ahmedabad Dholka- Dhandhuka Section)	Bank between miles 21/9 to 25/5 was heavily scoured and completely washed away.	18-9-50	16 days . .	89,977
	Kivarli-Abu Road	Bank at mile 420/12 was washed away by the heavy flood in the Banas River.	18-9-50	3 days . .	24,960
	Radhanpur (Kandla- Deesa Railway Construction)	Bank was breached at several places, particularly where height of embankment was low.	July 1950	....	44,000
	Mehsana-Patan	Pier No. 2 of bridge No. 46 at mile 28/14 M. P. tilted by 1′—0″ and track at 29/9-11 was breached.	17-9-50	17 days . .	18,000

Railway	Sections affected	Character and extent of damage	Date	Duration of interruption to through communications	Total approximate cost of repairing damages, etc.
					Rs.
B.B. & C.I.—*contd.*	Other sections	Breaches due to heavy rains, floods, etc.	8-7-50 to 18-9-50	Varying from 5 hours to 3 days.	58,300
E. I.	Rajbandh- Sagarbhanga, B. A. K. Loop between Agradwip- Dainhat, Dhanbad Yard (east end of Gomoh station) Tari Ghat Branch, Gangaganj - Rae-Bareli and Raiwala and Kansrao	Due to heavy and incessant rains, track was rendered unsafe at many places and in some cases bridges were also damaged.	27-6-50 to 15-8-50	Varying from 2 hours to 8 days.	43,726
E. P.	Pathankot - Nagrota	Due to heavy rains embankment started sliding and sinking at certain places. A pier of one Bridge, No. 341 also sank and slided.	29-7-50 to 18-9-50	Varying from 4 days to 1 month.	33,671
	Ferozepur - Jullundur City	Breaches occurred at some places and the track was over-topped by flood water.	28-8-50	..	29,598
	Amritsar - Dera Baba Nanak	The section was breached at a number of places and the track was over-topped by flood water.	4-9-50 and 10-9-50	1 month and 14 days.	82,565
	Lohian - Khas Nakodar	A number of breaches occurred and 2 piers of Bridge No. 96 at mile 31/1-2 were washed away.	17-9-50	16 days	30,983
	Jullundur City - Nakodar and Batala-Qadian	A number of breaches occurred and earthwork of the embankment was partly washed away.	3-9-50 and 17-9-50	10 days and 24 days.	28,722
	Other sections	A number of breaches and slips occurred as a result of heavy rains.	17-5-50 to 30-3-51	Varying from a few hours to 5 days.	64,546
G. I. P.	Mathura - Delhi, Igatpuri - Kalyan, Kalyan- Poona, Itarsi - Bhopal and Karjat - Khopoli sections	Due to abnormally heavy rains the ballast from under the track was washed away and the track also subsided rendering the track unsafe for passage of trains.	21-7-50 and 11-7-50 to 3-9-50	Varying from 1 day to 14 days.	1,94,592
O. T.	Chowkaghat and Gogra Ghat stations	*Elgin Bridge (17×200′ G) at mile 440/22.* Pitching on a section of the left down steam guide bank about 150 feet long extending to about 70 feet from the abutment continued for a prolonged period and was continuously made up by feeding block bunker and boulders into the slip. Scour below the safe limit at Pier Nos. 3 and 4 was made up by throwing pitching material loose and in crates until the level was again brought above the safe limits.	16-8-50	....	1,75,000

Railway	Sections affected	Character and extent of damage	Date	Duration of interruption to through communications	Total approximate cost of repairing damages, etc.
					Rs.
O.T.—*contd.*	Dhamaraghat - Koparai (M. B. section)	*Bridge No. 46 (21×40'. G) at mile 8/10-11.* Heavy scouring took place at piers Nos. 16, 17, 8 and 9, and 1 and 2, and pier Nos. 8 and 9 tilted, the former by 1½" and the latter by 4".	24-4-50 9-2-51 25-2-51 12-3-51	....	67,517
	Kursela-Kateriah .	*Kosi Bridge No. 2 (15× 200' G) at mile 25/14 to 26/8.* Owing to flow of main Kosi Channel towards the left up stream guide bank there were considerable slips in the pitching between chain 18 and 25 and there was translation of main channel towards the east bund.	..	....	6,00,000

71. Engineering works—Arantangi-Karaikkudi Construction.—The construction of this line, 17·07 miles long, was sanctioned at an estimated cost of Rs. 40·41 lakhs. This line will link a short gap now existing between Arantangi and Karaikkudi and provide a through connection from Madras *viâ* Mayavaram to the South, which may in case of emergency serve as an alternative through Indo-Ceylon route. The link will expedite the movement of rice and paddy from the Mettur Project area of the Tanjore District to deficit area like the Ramnad District. In addition, it will assist the development of the Cauvery-Mettur project area.

72. Open line improvements.

Assam Railway—

Improvement to line capacity on the Bengal Dooars Section—Cost Rs. 13,61,773.—With the construction of the Assam Rail Link, the sections between (*a*) Bagrakote and Madarihat, and (*b*) between Hasimara to Alipur Duar, which previously were branch lines only, became part of through main route, and it became necessary to bring certain station yards on these sections to main-line standards to enable more trains to be run with increased loads. The work included remodelling at 15 stations and entailed improvement to signalling, extension of loops to 1,500 feet clear length and provision of additional running lines and watering arrangements, etc., in order to increase the line capacity on the Bengal Dooars Section.

Bengal Nagpur Railway—

Provision of four new crossing stations on Katni Branch—Cost Rs. 13,24,972.—The provision of these new crossing stations was found necessary for increasing the capacity of the Anupur-Katni Section to cater for the additional train service on account of the development of the Central India Coalfields.

East Indian Railway—

Additions and alterations to goods yard at Bhagalpur—Cost Rs. 5,52,767.—The transhipment capacity of the Bhagalpur Yard being only 50 M. G. wagons per day, it was found necessary to carry out some additions and alterations to raise the capacity to 100 wagons a day to cope with the increased traffic.

Tundla Yard remodelling—Cost, Rs. 6,36,223.—The provision of additional traffic facilities at Tundla Yard has been under consideration for a number of years, and schemes for complete remodelling had been prepared. In view of the very high cost of the scheme, however, it was decided to provide only the minimum additional facilities required in connection with the movement of gypsum traffic from Rajasthan to the Sindhri Fertilizer Factory at an estimated cost of Rs. 6,36,223.

Mysore State Railway—

Remodelling of Bangalore City Station (Metre gauge) Yard—Cost: Rs. 9,60,286.—This work was undertaken with a view to meet the day-to-day requirements of traffic and to effect certain improvements in the stabling lines for prompt attention being given to coaches and to provide further amenities to passengers on a modest scale.

Oudh Tirhut Railway—

Broad/Metre gauge transhipment yard at Manduadih near Benares—Cost: Rs. 18 lakhs.—The existing transhipment facilities at Benares Cantonment being inadequate to meet the increased traffic requirements it was decided to provide a new transhipment yard at Manduadih which is the next station from Benares Cantonment on the metre gauge line to Allahabad. The provision of this yard greatly helped the movement of food grains to North Bihar. This yard would also effectively balance the fluctuations in traffic clearances *viâ* the ferry at Mokameh Ghat due to the vagaries of the river channel.

73. Important works sanctioned.

Assam Railway—

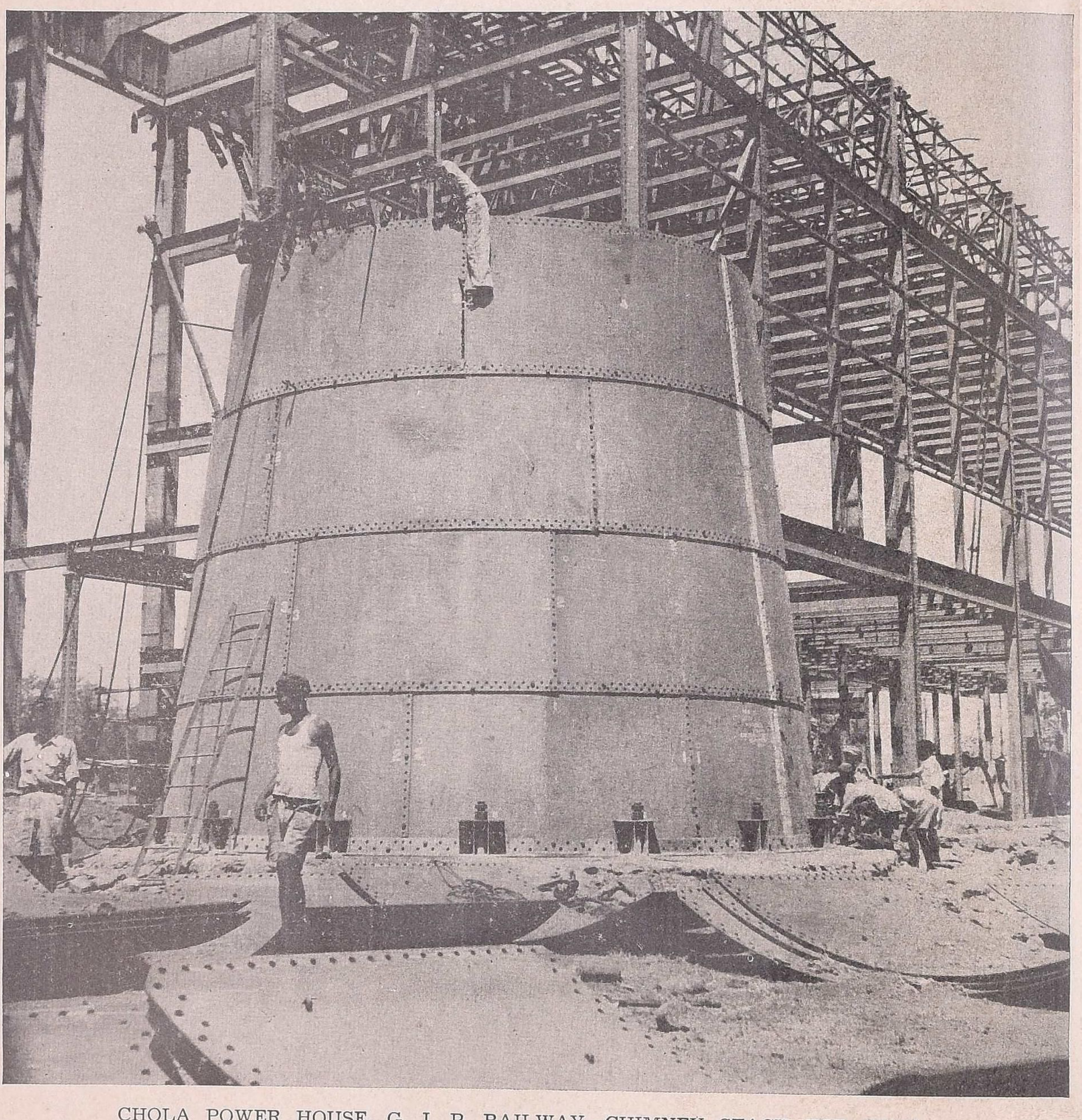
New locomotive shed at Bongaigaon—Cost: Rs. 10,86,063.—Prior to partition of the country the section of line between Parbatipur and Amingaon—a distance of 220 miles on the Bengal Assam Railway—was being served by an intermediate locomotive shed at Lalmanirhat which is now in Pakistan. As mentioned in the last Report, it was decided to provide a locomotive shed at Alipur Duar to house 70 engines and the work was taken in hand. In addition to the shed at Alipur Duar, it was considered necessary to provide a small intermediate shed at Bongaigaon for servicing a small number of engines to work branch lines. Accordingly an estimate to provide facilities for stabling, turning, watering and coaling of 10 engines only at Bongaigaon was sanctioned and the work was taken in hand.

Bengal Nagpur Railway—

Construction of a railway siding (Branch line) and assisted sidings for the Rajnagar and West Jhagrakhand Collieries—Cost: Rs. 33,13,325.—The question of providing siding facilities to serve these collieries had been under consideration for some time. The Rewa State, in which these collieries lie, was very much interested in their development. The former Ministry of Industry and Supply also strongly supported the proposal for rail facilities for the collieries in the interest of coal production.

After considering various aspects, it was decided that the best arrangement for serving these collieries would be to lay a branch line 6·38 miles long from Bijuri station, with 2 separate sidings, one (2·04 miles in length) to serve the Rajnagar Colliery, and the other (3·43 miles in length) to serve West Jhagrakhand Colliery, and an estimate was accordingly sanctioned for this work.

Road and rail crossing of Mahanadi River—Hirakud Dam Project.—Sambalpur-Titilagarh Railway Project, which has been approved by the Central Board of Transport, includes the construction of a combined



CHOLA POWER HOUSE, G. I. P. RAILWAY—CHIMNEY STACK FOR HIGH PRESSURE BOILERS UNDER ERECTION

rail-road bridge across the river Mahanadi near Sambalpur over which National Highway No. 6 is to pass. Pending sanction to the construction of the rail link, it was decided that a rail-road bridge with railway and roadway running alongside each other on common piers be constructed in order to facilitate the transport of materials required for the Hirakud Dam Project. It was further decided that Central Waterpower Irrigation and Navigation Commission should construct to railway specifications the substructure of the bridge and the approaches to the railway bridge, and that the Railway should provide the girders and the permanent way over the bridge. The cost of girders and permanent way over the bridge is estimated at Rs. 16,38,400. The bridge will consist of 25 spans of 100′ girders. The work is in progress.

Bombay, Baroda and Central India Railway—

Electrification of through line between Bandra-Borivli.—On the Bombay, Baroda and Central India Railway, the through tracks were originally electrified only from Church Gate to Bandra. In order to intensify the local service which was found to be inadequate, the electrification of through tracks has been extended from Bandra to Borivli, at an estimated cost of Rs. 15,23,000. Additional multiple unit stock has also been obtained to intensify the suburban train services.

Remodelling the Car Shed at Bombay Central—Cost: Rs. 11,99,900.—The existing accommodation for stabling and servicing of the multiple unit electric stock having been found inadequate, sanction was given to the work of remodelling the car shed. The work, when completed, will provide additional facilities for the existing as well as the new stock on order.

Great Indian Peninsula Railway—

Kalyan Power House extension.—The Power House at Kalyan of the Great Indian Peninsula Railway was built in 1929 primarily for the purpose of supplying power for the electrified sections from Kalyan to Poona on the South-east line and Kalyan to Igatpuri on the North-east line. The energy required for the suburban section from Bombay V. T. to Kalyan was purchased from Messrs. Tata Hydro Agencies Ltd.

In 1939, the Railway's Power House was interconnected with the Tatas Hydro-generating system for the mutual benefit of both parties. The Tata's load having gradually developed on account of industrialization, etc., they gave notice to the Great Indian Peninsula Railway towards the end of 1946, expressing their inability to supply power to the Railway. The Bombay, Baroda and Central India Railway were also purchasing energy from Tatas for their suburban electrification from Church Gate to Virar. In 1947, they were also served with a similar notice by the Tatas. It thus became imperative for the Railways to extend the Power House at Kalyan to enable the full load of both the Great Indian Peninsula and Bombay, Baroda and Central India Railways to be met by generation at Kalyan Power House.

Two low pressure boilers, three high pressure boilers and two turbo-alternator sets are being installed, thus increasing the capacity to 72,000 kws. The estimated cost of the extension scheme is about Rs. 3,04,32,640.

Oudh Tirhut Railway—

Creosoting Plant at Clutterbuckganj near Bareilly.—For some time past the supply of wooden sleepers of durable species has been gradually decreasing with the result that the supplies are considerably short of demand. One of the means of tiding over the difficult timber situation is to give preservative treatment to all wooden sleepers as a long-term measure with a view to (*a*) prolonging the life of sleepers and thereby reducing the annual demand for replacements, and (*b*) increasing the field of supplies by making it economical to use, after suitable treatment, the softer and less durable species

of timber which, on account of their shorter life or unsuitability in other respects, are not ordinarily used. It has accordingly been decided to set up creosoting plants on a regional basis so as to minimize lead and incipient rot in transit. One of the new plants is to be sited at Clutterbuckganj near Bareilly, with a capacity of treating 450,000 broad gauge units per annum in single shift working. This work has been sanctioned at an estimated cost of Rs. 41,13,982. The plant is on order.

74. **Bridge strengthening and protection programme.**—Details of important items relating to bridges completed or in progress at the close of the year are given below :—

(1) *Assam Railway*—

(*a*) Reconditioning and strengthening of 4 × 60 ft. spans at miles 370/17-18 between Lumding and Belengfer was completed.

(*b*) The work on extension of left guide bund of Beki Bridge at mile 264/1-6 between Sorbhog and Balkola Road which was mentioned in the last Report was completed during the year. The existing Beki Bridge is the eighth one over the river, the previous seven having been washed away one after the other. The present bridge was constructed during the War and located downstream of the last bridge and was provided with short guide bunds only. During the floods which occurred in 1949 the river heavily attacked the left bank and it was decided to extend the left guide bund by 2,000 ft. to prevent formation of a big embayment near the head of the bund.

(*c*) Seven spans of 40 ft. and 16 spans of 20 ft. girders on the Bengal Duars section which now forms the main line between Assam and the rest of India were strengthened and replaced to take metre gauge main line loading.

(*d*) The newly constructed Tista Bridge between Sevoke and Bagrakote on the Assam Rail Link was extended by three spans of 150 ft. girders on wells sunk to 40 to 60 ft. below low water level to provide additonal waterway.

(*e*) Rebuilding Dhalla Bridge with 1 × 60 ft. and 2 × 20 ft. spans on a new alignment at mile 60/2 on Makum Junction-Saikhoa Ghat Branch was commenced. The bridge was damaged by the earthquake on 15 August 1950.

(2) *Bengal Nagpur Railway*—

An estimate amounting to Rs. 15·15 lakhs for replacing plate girders and small spans on the main lines, Howrah-Nagpur, Khargpur-Waltair, Adra-Sini Triangle and Parvatipur-Vizianagaram Chord, to Main Line Standard was sanctioned. It provides for replacement of one hundred and eighty-six 6 ft. and 12 ft. girder spans with Rail Cross slabs and replacement of four 6 ft., one 12 ft., one hundred and eleven 20 ft. and one 40 ft. girder spans by new broad gauge main line spans. The work is being done gradually.

(3) *Bombay, Baroda and Central India Railway*—

(*a*) Renewing heavily corroded top angles of the stringers of the Tapti Bridge No. 452 (10 × 182 ft.) at mile 168/15 between Surat and Utran. The work was completed during the year.

(*b*) Regirdering and reconditioning (including strengthening as necessary) of girders and rebuilding substructures of bridges

which are not at present strong enough to carry 20-ton axle loads of standard XC engines. The condition of the substructures of a large number of bridges on the Bombay-Ahmedabad Main Line was giving cause for anxiety. The work had to be carried out under traffic, so as to reduce dislocation to the minimum. During the year under review, rebuilding defective structures or providing box culverts were completed on 17 bridges and work on 15 more bridges was in progress.

(c) *Ahmedabad-Viramgam section.*—22 × 20 ft. span weak girders were replaced by Main Line Standard spans.

(d) *Vaitarna Bridge No. 93 and Sabarmati Bridge No. 733.*—The 60 ft. girders on these bridges were reconditioned and the corroded rivets of top flanges were renewed.

(4) *Eastern Punjab Railway*—

Strengthening of 3 spans of 100 ft. girders each of Sirsa Bridge No. 140 on Rupar-Nangal section was carried out during the year. This bridge has 10 spans of 150 ft. each of old wrought iron girders, of which 7 had been strengthened before. The remaining 3 were weak with strength of chord members 78 per cent, web 62 per cent and cross girders 53 per cent of Branch Line Standard. The girders have now been strengthened to Branch Line Standard.

(5) *East Indian Railway*—

(a) In all 32 bridges were strengthened during the year. These include the following 8 bridges on which Rail Cross slabs were provided in place of rail girders and trough tops.

No. S/31 on Sealdah Division
No. 46 on Howrah Division
Nos. 4 and 238 on Barkakana Loop
No. 217 on Fyzabad Loop
Nos. 66, 68 and 49-A on Allahabad-Fyzabad Branch.

(b) They also include the following bridges on the Lucknow Division where open top bridges were replaced by Rail Cross pipe culverts.

Nos. 70, 73, 92, 129, 134, 114 and 115 on the Main Line
Nos. 218 and 227 on Fyzabad Loop
Nos. 530 and 63-A on the Allahabad-Jaunpur Branch.

(c) At Bridge No. S20 on the Sealdah Division, the existing corroded 30 ft. girder span was replaced by a new one.

(d) Bridge No. 58 on the Sahebganj Loop consisting of 10 ft. arch which was cracked was replaced by 12 ft. arch span.

(6) *Oudh Tirhut Railway*—

(a) Protection works for Kosi Bridge (15 × 250 ft.) spans at mile 25/15 between Kursela and Katarea on Katihar-Baraunni section.—An estimate amounting to Rs. 16·73 lakhs for provision of an armoured nose to the left upstream guide bund with a proper apron for 70 ft. depth of scour was sanctioned and the work was in progress.

(b) Pitching round piers Nos. 1 and 2 and lining the river channel with pitching 300 ft. downstream guide bund of Elgin Bridge

No. 37 (17 × 200 ft. spans) at mile 440/22 between Gograghat and Chowkaghat stations.—The main stream of the river flowing through a deep gutter along the left downstream guide bund of the bridge, caused extensive damage to the protection round piers Nos. 1 and 2 and the left downstream guide bund during the flood season, 1950. The extent of damage revealed denudation of pitching round the piers well below the safe scour level, and also the existence of a pit, whose deepest point within 200′ downstream of pier No. 2, was 5 ft. below the bottom of the wells. For the safety of the bridge it was considered essential to restore the pitching round piers Nos. 1 and 2 to safe scour level, and to line effectively with pitching stone the exposed slope of the bank in front of the left downstream guide bund. An estimate amounting to Rs. 15·4 lakhs for the necessary protection works was sanctioned and the work was in progress.

(7) *South Indian Railway—*

(*a*) Rebuilding the existing arch bridges Nos. 660 and 661 (1 × 12 ft. and 1 × 9 ft.), as 1 × 12 ft. and 1 × 9 ft. Rail Cross slab culverts respectively in Mankarai station yard was in progress.

(*b*) Extension of 3 × 40 ft. span girder bridge No. 495 over Malattar river at mile V. T. 105/14 between Villupuram and Serndanur by adding 2 × 40 ft. span girders on the south end and raising rail level by 2′-6″ to prevent inundation of bank was in progress.

75. Permanent way renewals and welding of rail joints.—The Track Renewal Programme for 1950-1 originally provided for an expenditure of Rs. 456·63 lakhs on Government Railways and Rs. 97·33 lakhs on the former Indian State Railways. The provision was subsequently increased by Rs. 304·5 lakhs during the year to cover additional urgent track renewals required as a safety measure on certain railways. The total provision for the year thus stood at Rs. 858·46 lakhs.

Details of some of the important works completed or in progress at the close of the year are given below.

Assam Railway—

Relaying of 41¼ lb. rails with 60 lb. R. and 50 lb. rails on the Bengal Duars Section.

With the opening of the Assam Rail Link, portions of the Bengal Duars Section formed part of the main route between Assam and the rest of India. Out of a length of 47·8 miles that required relaying with heavier rails, 31·5 miles were relaid in 1949-50 and the balance was completed during the year under review.

On the Darjeeling Himalayan Section, relaying of 3¼ miles of 41¼ lb. track by 50 lb. R. rails on *sal* sleepers was carried out during this year.

Bombay, Baroda and Central India Railway—

(*a*) Bombay-Baroda section.—Relaying 23 miles of 90 lb. rails on C. I. pot sleepers (N + 1 density) with 90 lb. R. rails on steel trough sleepers (N + 4 density) between Navsari and Udhna.

The work was taken in hand.

(*b*) Relaying of 20·26 miles of 50 lb. B. S. rails with 60 lb. R. rails and provision of fair 'V' type anchors from mile 332 to mile 343 on Mhow Ghat section was carried out.

(c) Replacing of cast iron pot sleepers (N + 1 density) with C.S.T. 9 sleepers (N + 3 density) for 22 miles between miles 326½ to 338½ and mile 416/1 to 426.

Out of 22 miles, the replacement of sleepers from mile 326½ to 334 and from 416/1 to 426 was completed during the year.

Bengal Nagpur Railway—

(a) Relaying 41·00 miles of 90 lb. B. S. rails with 90 R. rails on wood sleeper (N + 4) with bearing plates on Howrah-Khargpur section. 50 per cent of the work was completed.

(b) Renewing 24·458 miles of 85 lb. B. H. rails with 90 lb. R. rails on existing sleepers between Baruva and Naupada. Out of 24·458 miles, 14 miles of re-railing was completed during the year.

(c) Renewing 30·125 miles of 90 lb. B. S. (N. E. S.) rails with 90 lb. B. S. S. rails on N + 4 steel sleepers between Hatbandh and Raipur. The work has been completed except relaying of points and crossings.

(d) Renewal of 13·3 miles of 85 lb. B. H. rails with 90 lb. R. rails between Naupada and Tilaru. The work has been completed.

(e) Renewal of 10·353 miles of 85 lb. B. H. rails with 90 lb. R. rails between Naupada and Urlam. The work has been completed.

(f) Re-sleepering 23·09 miles of corroded H. W. steel sleepers with C. S. T. 9 C. I. plate sleepers between Vizianagaram and Waltair. The work was completed.

East Indian Railway—

(a) *Sealdah Division.*—Primary relaying with 90 lb. R. rails 42 ft. long and new wooden sleepers releasing 90 lb. F. F. B. S. S. Rails and wooden sleepers on Budge Budge section—11·50 miles. 5·35 miles were relaid during the year.

(b) *Allahabad Division.*—Complete track renewal (primary) with 90 lb. R. rails on C. S. T. 9 type sleepers N + 3 + D releasing 88½ lb. B. H. track—52 miles. The work has been completed.

(c) Primary relaying on Moghalsarai-Ghaziabad section with 90 lb. R. rails and steel trough sleepers releasing 88½ lb. rails and D. O. sleepers—80 miles. About 76 per cent of the work has been completed.

Altogether a length of 127·99 miles of primary relaying and 3·55 miles of secondary relaying was completed on the Railway during the year.

Great Indian Peninsula Railway—

(a) *Bhusawal Division.*—Relaying of old and worn 100 lb. B. H. track with 90 R. rails on C. I. C. S. T. 9 plate sleepers from miles 258·77 to 238·292 = 20 track miles Down road between Pardhode and Jalgaon on Igatpuri-Itarsi section. The work has been completed.

(b) *Nagpur Division.*—Relaying of old and worn 100 lb. B. H. track with 90 R. rails on C. S. T. 9 sleepers of Down line on Tuljapur-Nagpur section—31·972 track miles. 50 per cent of the work was done during 1949-50, and the balance has been completed during the year under review.

(c) *Jubbulpore Division.*—Relaying of old and worn 80 lb. F. F. I. M. R. track partly with second class 100 lb. B. H. 33 ft. cropped rails on C. I. pot sleepers and partly with 90 R. rails on wooden sleepers—30·60 miles on Bina-Katni section. A length of 8·60 track miles was relaid during 1949-50. The balance was relaid during the year and the work completed.

(d) Relaying of old and worn 80 lb. F. F. I. M. R. track with second class 100 lb. B. H. 33 ft. cropped rails on C. I. pot sleepers from 739·159 to 751·930 = 12·51 track miles on Bina-Katni section. The work has been completed.

(e) Relaying of old and worn 80 lb. F. F. I. M. R. track with second class 88½ lb. B. H. cropped rails on C. I. pot sleepers (with C. I. duplex sleepers at joints) from mile 751·930 to 768·930 = 16·661 track miles on Bina-Katni section. 3 track miles was relaid during the year. The work is in progress.

(f) *Bombay Division.*—Relaying of old and worn 100 lb. B. H. track on Thull Ghat with second class 100 lb. B. H. 33 ft. cropped rails on C. I. pot sleepers—13·69 track miles. The work has been completed.

(g) *Lonavala Division.*—Relaying of old and worn 100 lb. B. H. track on Bhore Ghat with second class 100 lb. B. H. 33 ft. cropped rails on C. I. pot sleepers (with C. I. duplex sleepers at joints)—24·380 track miles. A length of 20·53 miles was relaid during the year.

(h) *Jhansi Division.*—Relaying of old and worn 85 lb. B. H. track with 90 lb. R. rails on C. S. T. 9 C. I. sleepers with C. I. duplex sleepers at joints from miles 914·00 to 994·48 = 34·71 track miles between Agra and Delhi. 3·25 track miles were relaid during this year.

Madras and Southern Mahratta Railway—

(*a*) Relaying with 90 lb. R. rails on C. S. T. 9 sleepers in lieu of existing 80 lb. B. H. rails on C. I. pot for 30 miles between miles 240 and 270 on North-west line. 42 per cent of the work was done in 1949-50. A further progress of 23 per cent was made during the year.

(*b*) Relaying with 60 lb. R. rails on wooden sleepers in lieu of existing 41¼ lb. F. F. rails on Wooden sleepers for 57 miles on Guntur-Macherla Branch. 83 per cent of the work was completed in 1949-50. A further progress of 9 per cent has been made during the year.

Oudh Tirhut Railway—

(*a*) Replacing the existing 50 lb. N. S. rails and fastening, and also points and crossings with new 50 lb. R. ones and also inserting one additional sleeper under each 40 ft. rail from mile 405·47 Motiganj to mile 446·47 Burhwal = 41 miles. The work has been completed except replacement of points and crossings.

(*b*) Replacing the existing 50 lb. N. S. rails and fastenings and also points and crossings with 60 lb. R. ones and also inserting one additional sleeper under each 40 ft. rail between Khagaria and Barauni Jn. from mile 79·7 to 111·7 = 32 miles. Replacing of 16·5 miles out of 32 miles was completed during this year.

South Indian Railway—

(*a*) Removing 50 lb. B. H. rails on C. I. pot and relaying with 60 lb. A. S. C. E. rails on N + 3 wooden sleeper in Manamadurai-Mandapam section—6·991 miles between miles 309/10 and 316/10-11. The work has been completed.

(*b*) Removing the existing 75 lb. B. H. rails on C. I. pots and relaying with 80 lb. B. H. rails on existing and additional C. I. pots second class to N + 3 standard between Kodumudi and Erode Jn.—18·543 miles between miles 276/17½ and 295/12. The work was completed.

(*c*) Removing the existing 75 lb. B. H. rails on C. I. pots and wooden sleepers and relaying with 80 lb. B. H. cropped rails 27 ft. between miles E. 371/17½ and 276/17½. The work was completed.

(*d*) Removing the 80 lb. B. H. rails on C. I. pot sleepers and relaying with 90 lb. R. F. B. rails on steel sleepers (N + 4) between miles B. 370/11½ and 377/22½ on Cannanore District. The work was completed.

Altogether a length of approximately 31 miles of primary relaying and 30 miles of secondary relaying was completed on the Railway during the year.

Welding of rail joints—Bombay, Baroda and Central India Railway.— The work of complete track relaying of 23 miles between Navsari and Udhna provided for the rails being welded at site by the Thermalite process in panels of 5 rail lengths, every fifth joint being fishplated.

East Indian Railway—

(*a*) 2,000 rail joints on a length of 7 miles between Raiganj and Jakhim on Gaya-Moghalsarai section were welded by Thermalite welding process.

(*b*) 2,454 rail joints equivalent to a length of 10·2 miles were welded by Flash Butt welding process, the length of welded rails being 132 ft. each.

South Indian Railway.—220 joints were welded by Thermit process between miles 297 and 297/12 on the Erode Branch.

76. **Chittaranjan Locomotive Works.**—The Locomotive Manufacturing Works Project referred to in the Report for the year 1949-50, has since been renamed "Chittaranjan Locomotive Works" after the late Shri Chittaranjan Das. The work on this project, which was started in 1948, continued to make good progress. All the land required for this project has since been acquired and workshop structures including office buildings were nearing completion towards the end of the period under review. The new township of 5,000 houses in colonies laid out on the neighbourhood-unit basis was also almost ready. Formal opening ceremony of the factory was performed by Honourable the President of India on 26 January 1951. The factory has started erection of new locomotives, and good progress has been made in the manufacture of components.

77. **Wireless communication on railways.**—The wireless communication facilities were considerably strengthened during the year by permanent installation of medium and low power transmitters on Bombay, Baroda and Central India and Assam Railways. There was marked improvement in the maintenance of wireless equipment and the average time for repairs on wireless failures was considerably reduced.

A temporary wireless station was opened at Nasik during the Congress Session. Arrangements were also made to open several wireless stations at important railway centres to cope with the possibility of a breakdown of communications during emergencies.

To comply with the safety requirements, wireless sets were installed on two ferry steamers S. S. 'GOSCHEN' and S. S. 'IRWIN' plying between Dhanushkodi and Talaimannar. These two steamers can now contact railway wireless stations at Trichinopoly and Madras.

78. **Improvement to line telecommunication on railways.**—Additional telephone exchanges, magneto telephones, and control telephones have been provided at several important stations. Old and obsolete telephone control equipments have been replaced by those of modern design and improved efficiency on some sections.

V. F. repeaters have been installed on the broad gauge portion of the administrative trunk lines of the Bombay, Baroda and Central India Railway and the installation of Administrative Trunk lines on the metre gauge system of the Railway is in progress. A direct telegraph circuit has been provided between Pandu and Alipur Duar Junction.

The recruitment and training of a large number of additional staff required for the operation and maintenance of communication circuits on the railways in connection with the Adjudicator's Award has been carried out satisfactorily.

CHAPTER V

RAILWAY COLLIERIES

79. Output from Principal Railway Collieries.—The total output from the principal railway collieries during the year 1950-1 as compared with that during the previous year is shown in the accompanying table. There has been a decrease of 325,323 tons or 11·09 per cent as compared with the output of the previous year.

OUTPUT OF COAL FROM RAILWAY COLLIERIES DURING 1950-1

[Figures in tons.]

Colliery	Railway	1949-50	1950-1				
			Total	Selected		Grade	
				A.	B.	I.	II.
1. Bhurkunda .	E. I. . .	146,362	151,994	..	..	151,994	..
2. Kargali .	G. I. P. .	607,822	514,505	..	..	512,954	1,551
3. Kurharbaree and Serampore.	E. I. . .	373,960	326,097	326,097	..	..	..
4. Joint Bokaro	E. I. & B. N.	1,199,495	1,044,614	..	..	1,030,418	14,196
5. Joint Sawang	E. I. & B. N.	37,244	34,324	..	..	34,324	..
6. Jarangdih .	B., B. & C. I. & M. & S. M.	30,398	23,885	..	..	..	23,885
7. Talcher .	M. & S. M. .	127,478	119,413	..	..	..	119,413
8. Kurasia .	B., B. & C. I.	248,843	232,872	..	..	232,872	..
9. Argada .	B. N. . .	95,748	99,099	..	..	99,099	..
10. Deulbera .	B. N. . .	65,326	60,550	..	..	..	60,550
	TOTAL .	2,932,676	2,607,353	326,097	..	2,061,661	219,595

The total quantity of coal despatched by railway collieries during 1950-1 amounted to 2,342,545 tons, of which 2,308,139 tons, or 98·5 per cent were despatched to Indian Railways. This represents 22·2 per cent of the total coal consumption of railways during the year.

80. Coking coal.—The particulars of the coking coal produced by railway collieries during the year are summarized in the following statement:—

QUANTITY OF COKING COAL PRODUCED BY RAILWAY COLLIERIES DURING 1950-1

Colliery	Grade	Tons produced	Quality of coal and where used
1. Kargali	Grade I .	512,954	Inferior coal of high ash content and poor coking proportion; used entirely for goods service.
	Grade II .	1,551	Very inferior coal unsuitable for metallurgical purposes owing to high ash content; used entirely for goods services.
2. Giridih (Kurharbaree and Serampore).	Selected 'A' .	326,097	Best high grade coal, the dust of which is manufactured into hard metallurgical coke for use in railway foundries and workshops; used for mail and express goods services.
3. Joint Bokaro	Grade I .	1,030,418	Inferior grade coal, the dust of which only is suitable for metallurgical purposes; the seam worked as a whole, owing to high ash content, unfit to be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to; used entirely for goods services.
	Grade II .	14,196	Very inferior coking coal; unsuitable for metallurgical purposes owing to high ash contents; used entirely for goods services.
4. Joint Sawang	Grade I .	34,324	Inferior grade coal, the dust of which only is suitable for metallurgical purposes; the seam worked as a whole, owing to high ash content, unfit to be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to, used entirely for goods services.
5. Jarangdih	Grade II .	23,885	Very inferior coal, unsuitable for metallurgical purposes; used for slow goods and passenger services.
6. Argada	Grade I .	99,099	Inferior grade coal unsuitable for metallurgical purposes owing to its high ash content; used for goods and shunting services.

81. Total coal consumed by railways.—The total amount of coal consumed on Class I, Class II and Class III Railways during the year is shown below, along with figures for the previous year :—

	Tons 1949-50	Tons 1950-1
Class I Railways—		
Indian Government Railways	9,593,139	**9,694,015**
Other Class I Railways	405,062	**433,528**
Class II Railways	230,440	**192,449**
Class III Railways	91,067	**92,887**
TOTAL .	10,319,708	**10,412,879**

The distribution by grade of the total quantity of coal consumed by railways is as follows :—

Grade	Tons 1949-50	Tons 1950-1
Selected A	1,244,435	**1,070,104**
Selected B	2,423,289	**2,637,866**
Grade I	4,619,807	**4,789,927**
Grade II	1,498,954	**1,362,308**
Grade III-A and B	88,324	**105,096**
Small coals	444,899	**447,578**
TOTAL .	10,319,708	**10,412,879**

Although the consumption of coal per 1,000 Gross Ton Miles in Passenger and proportion of mixed, and Goods and proportion of mixed during the year 1950-1 was less than during 1949-50, the total consumption of coal during the year was more due mainly to more traffic handled and less supply of Selected A and more of Grade III-A and B coals.

82. Coal mined in India.—In 1950-1, the coal mined in the various provinces of India amounted to 32,325,760 tons as against 30,308,525 tons in 1949-50 an increase of 2,017,235 tons.

83. Coal despatched by rail.—The quantity of coal carried by the East Indian and Bengal Nagpur Railways during 1950-1 was 25·88 million tons, or 0·7 million tons less than that carried during the previous year. The comparative figures for the two railways are as follows :—

	Tons 1949-50	Tons 1950-1
East Indian Railway	17,398,166	**16,190,962**
Bengal Nagpur Railway	9,177,713	**9,688,856**
TOTAL .	26,575,879	**25,879,818**

84. Capital invested in and financial results of the working of railway collieries during 1950-1.—Capital invested in and financial results of the collieries during 1950-1 are appended below.

Colliery (1)	Total capital outlay up to 31st March 1951 (2)	Earning during 1950-1 (3)	Working expenses during 1950-1 (4)	*Profit or loss in working during 1950-1 (5)
Bhurkunda	67,64,533	21,09,877	22,96,663	−1,86,180
Kargali	1,64,54,820	66,74,976	1,44,44,508	−76,13,841
Kurhurbaree	64,91,648	21,32,993	49,10,418	−27,73,541
Serampore	63,29,006	27,02,611	47,29,904	−20,00,641
Bokaro	1,49,32,951	1,47,59,360	82,21,932	+65,35,968
Sawang	11,53,143	3,66,075	8,08,707	−4,08,387
Jarangdih	84,44,659	3,03,398	7,07,293	−4,02,981
Kurasia	37,74,533	34,50,235	25,79,655	+8,70,999
Talcher	70,64,507	17,72,874	23,57,491	−5,86,616
Argada	1,96,532	13,68,990	10,68,110	+2,99,288
Deulbera	26,44,757	9,11,903	16,43,511	−7,32,811
TOTAL	7,42,51,089	3,65,53,292	4,37,68,192	−69,98,743

* In arriving at these results 'Opening' and 'Closing' stock of coal has also been taken into consideration in column (5) and as such it will not be possible to arrive at these figures on the basis of figures under columns (3) and (4).

(+) and (−) in column (5) represent profit and loss respectively. The capital invested represents the fixed and floating assets less sinking fund.

The figures given above are provisional as the accounts for the period ending 14 August 1947 have not yet been finally closed.

Working of railway collieries for the year 1950-1 disclosed losses at most of them. These losses were mainly due to the following factors :—

(1) Expenditure on account of surplus labour at railway collieries as the question of their retrenchment could not be finalized during the year.

(2) Drop in output due to—

(*a*) departmentalization of coal raising at all collieries excepting Bokaro and Kargali ;

(*b*) production of miners and loaders having been reduced as compared to other labourers for lack of recruiting agency ;

(*c*) strike on certain collieries ; and

(*d*) the 'go slow' policy of the labour.

(3) The expenditure on account of the removal of overburden by Indian Mining and Construction Co., Ltd., to the extent of Rs. 69,87,141 having been charged direct to "Working Expenses" instead of to "Capital Miscellaneous Advance" under orders from the Ministry of Railways (Railway Board).

(4) Postponement of development work at some of the collieries on account of financial stringency.

CHAPTER VI

ROLLING-STOCK AND MATERIALS

85. Additions to equipment.

Locomotives.—Under the diverse systems of management of Indian Railways under Company, States and Government of India in the past, many different types of locomotives have been added to their locomotive holdings, with such obvious disadvantages as the extremely restricted interchangeability of parts with consequent impediments towards rationalization of repair and manufacturing capacity in Railway workshops. Standard designs of locomotives have, therefore, been evolved to deal with passenger, mixed, freight and shunting services on Indian Railways for both broad and metre gauges and replacements and additions to locomotives have now to conform to these new designs.

The number of new standard locomotives ordered and placed on line during the year is given below:—

	Broad gauge	Metre gauge
Number ordered	160	215
Number placed on line	144	149

Carriages.—Although designs for all-steel coaching stock are under preparation, railway workshops, which are equipped for the purpose, continue to build the conventional design of wooden bodied coaches on steel underframes. There was a distinct improvement in the number of coaches completed during the year in spite of the fact that some of the installed building capacity had to be utilized to overtake heavy arrears in repairs to the old coaching stock. The number of carriages ordered and placed on line during the year is given below:—

	Broad gauge	Metre gauge
Number ordered	391	576
Number placed on line	480	416

Out of these, 63 all-steel coaches were supplied by Messrs. Hindustan Aircraft Ltd., Bangalore, who are manufacturing this type of coach for the Indian Railways. The improvement effected during the year may be judged from the fact that the stock placed on line during the year 1949-50 amounted to only 301 broad gauge and 318 metre gauge.

Wagons.—Shortage of wagons has been felt for some time on the Indian Railways and it is particularly so now on the Northern metre gauge group. The installed indigenous capacity for the manufacture of wagons amounts approximately to 6,000 per annum, and as the demand has been greatly in excess of this capacity, orders for some wagons had to be placed abroad in order to supplement the supplies from indigenous manufacturers. The number, in terms of four-wheelers, ordered and placed on line during the year is given below:—

	Broad gauge	Metre gauge
Number ordered	2,430	9,960
Number placed on line	2,924	415

86. Locomotives.—The average tractive effort per engine expressed in lbs. on Class I Railways during 1950-1 records, as compared with 1949-50, a slight increase for steam locomotives on both gauges. The average tractive effort for diesel electric locomotives and electric locomotives remained the same as

during last year. The detailed figures for the different classes of locomotives are shown in the following table:—

AVERAGE TRACTIVE EFFORT PER ENGINE IN LBS.

Locomotives	Broad gauge		Metre gauge	
	1949-50	1950-1	1949-50	1950-1
Steam (including Sentinel and Clayton types)	27,928	**28,198**	16,420	**16,536**
Diesel electric	25,412	**25,412**	..	..
Electric	30,756	**30,756**	10,400	**10,400**

87. Manufacture of boilers and locomotives in India.—During the year, the new locomotive workshops at Chittaranjan commenced the assembly of locomotives imported in knock down condition. The manufacturing capacity in this workshop was also utilized on the manufacture of parts for the WG engines on order and spare locomotive parts for other railways who were deficient in manufacturing capacity. The first order for 100 WG broad gauge locomotives was placed on these Works during the year under review and seven locomotives were completed.

An order for 50 YG metre gauge locomotives was placed on Messrs. Tata Locomotive & Engineering Co., during the year. Deliveries against this order are scheduled to commence from January 1952.

During the year 69 boilers were ordered on Messrs. Tatas and deliveries would commence from January 1953. The total outstandings on 31 March 1950 against the previous orders on the firm amounted to 127 boilers out of which 41 were delivered in the course of the year.

88. Repairs to locomotives in Railway Workshops and Running Sheds.—As compared with 1949-50 the number of engines under or awaiting repairs in workshops and running sheds registered a decrease in the year as shown by the figures summarized in the following table:—

AVERAGE NO. OF LOCOMOTIVES UNDER OR AWAITING REPAIRS

Gauge	Year	In Mechanical Workshops		In Sheds and Transportation Shops	
		Number	Percentage to average total No. on line	Number	Percentage to average total No. on line
Broad gauge (Steam)	1949-50	315	6·11	732	14·2
	1950-1	**276**	**5·25**	**723**	**13·8**
Metre gauge (Steam)	1949-50	139	5·97	268	11·5
	1950-1	**143**	**5·96**	**270**	**11·2**
Narrow gauge	1949-50	21	8·64	38	15·6
	1950-1	**30**	**10·2**	**39**	**13·2**

The overall position of engines out of service has also improved.

89. Rationalization of workshop capacity.—The Eastern Punjab and Assam Railways which were left without workshop capacity after Partition continued to receive assistance from other railways in the periodical overhaul to their locomotives. Both these railways, however, have developed a certain amount of capacity for such work in their running sheds to reduce the additional load placed on the other already overloaded Indian Railways' workshops. The Eastern Punjab Railway deals with approximately two

periodical overhauls per month and all intermediate repairs in their running sheds and the Assam Railway deals with 2·5 periodical overhauls and all the intermediate repairs required by them.

90. Rationalization of manufacturing capacity in Railway Workshops.—During the year, it was decided to modernize the workshops within a ten-year period, with a view to increase their capacity to cope satisfactorily with the works offering and any increase anticipated in the foreseeable future. Accordingly the Railway Administrations were asked to prepare and submit detailed proposals and programmes for the next three years.

It was also decided to form a Central Committee to direct the rationalization of the manufacture of locomotive spare parts, the objects being

(*a*) the manufacture in India by one organization of parts which formerly were imported ; and

(*b*) the manufacture in bulk by one organization of parts requiring special patterns or dies of complicated nature ; also those parts for which quantity production would only justify the manufacture of special tooling, thereby reducing costs of manufacture.

91. Supply of rails and fishplates from indigenous sources.—The production of rails and fishplates during 1950-1 by the two indigenous firms, *viz.*, Messrs. Tata Iron & Steel Co. and the Steel Corporation of Bengal taken together, amounted to 57,160 tons. The production was adequate to meet railways' requirements during the year, as they were restricted owing to paucity of funds. It was not found necessary to have recourse to any imports.

92. Wooden Sleeper Purchase Organization.—The Sleeper Groups purchased the following wooden sleepers during 1950-1 :—

—	Broad gauge	Metre gauge	Narrow gauge	Specials
	No.	No.	No.	No.
(1) Northern group	230,000	285,150	82,000	41,964
(2) Southern group	25,948	124,576	..	13,954
(3) Eastern group	313,923	566,690	197,689	122,478
TOTAL	569,871	976,416	279,689	178,396

In addition, the Saurashtra Railway purchased 120,912 metre gauge and 9,000 narrow gauge sleepers from Saurashtra area. The Sleeper Pool Organization also arranged inspection of approximately 24,760 tons of timber against orders placed by the Director General, Industries and Supplies.

The total expenditure of the sleeper groups during the year, together with the value of sleepers and specials purchased by them, are given below :—

—	Expenses of the group	Value of purchases made
	Rs. A. P.	Rs. A. P.
(1) Northern group	96,169 0 0	70,92,202 13 0
(2) Southern group	45,542 12 0	17,61,724 0 0
(3) Eastern group	2,43,306 3 0	1,47,66,160 3 0
TOTAL	3,85,017 15 0	2,36,20,087 0 0

The average price of first class sleepers in the various sleeper groups was as follows :—

—	Broad gauge	Metre gauge
	Rs. A. P.	Rs. A. P.
(1) Eastern group .	17 13 10	8 3 5
(2) Southern group (higher grade)	17 4 6	8 7 9
(3) Northern group	18 9 8	7 10 2

At Dhilwan creosoting plant on the Eastern Punjab Railway 304,860 broad gauge and 72,151 metre gauge sleepers of coniferous species were treated during the year with a mixture of 40 per cent creosote and 60 per cent fuel oil. The details are given below :—

	Chir		Fir	
	Broad gauge	Metre gauge	Broad gauge	Metre gauge
(1) Number of sleepers treated . . .	268,371	72,151	36,489	..
(2) Average absorption of mixture per cft. in lbs.	4·81	5·19	4·87	..
(3) Cost of treating per sleeper Rs.	4-2-8	4-0-7	2-13-3	..

Besides these 563 *chir* poles were treated for the Irrigation Department. *Chir* sleepers were treated by the Rueping process and the *fir* by the full cell process.

At Naharkatiya treating plant on the Assam Railway, 6,170 broad gauge and 88,258 metre gauge sleepers mostly of Hollong species were treated with a mixture of 40 per cent creosote and 60 per cent fuel oil during the year by the full cell process. The average absorption was 9·6 lbs. per cft. and the cost of treatment per sleeper was Rs. 7-3-10 per broad gauge and Rs. 3-8-0 per metre gauge sleeper.

93. Purchase of wooden, cast iron and steel sleepers.—The number of sleepers of various types purchased by Class I Railways during the year is summarized below.

—	Wooden	Cast Iron	Steel	Total
	No.	No.	No.	No.
Broad gauge	431,946	397,067	50,148	879,161
Metre gauge	1,103,666	26,435	125,187	1,255,288
Narrow gauge	188,302			188,302
TOTAL .	1,723,914	423,502	175,335	2,322,751

The relative position of the various kinds of sleepers may be seen from the following percentages based on the total number of sleepers on tracks by Class I Railways.

—	Wood	Cast iron	Steel	Other kinds
	Per cent	Per cent	Per cent	Per cent
Broad gauge	19·8	52·5	27·5	0·2
Metre gauge	70·5	3·6	23·8	2·1

94. Value of railway materials purchased.—The total value of stores purchased by the Class I Indian Government Railways, including the Bikaner State, Jodhpur, Mysore State and Nizam's State Railways, during the year amounted to Rs. 81·59 crores. This, however, excludes the Saurashtra and other small *ex*-States' Railways.

For purposes of comparison with the previous year, it is necessary to exclude the Bikaner State, Jodhpur, Mysore State and Nizam's State Railways as figures for these railways for 1949-50 are not available. The value of stores purchased by Indian Government Railways, excluding these Railways, decreased from Rs. 86·00 crores in 1949-50 to Rs. 78·23 crores in 1950-1. The value of indigenous materials purchased decreased by Rs. 6,14 lakhs and that of imported materials by Rs. 1,63 lakhs. The main items of decrease were under miscellaneous stores, grouped in the table below as 'All other stores', by Rs. 2,77 lakhs, rolling-stock by Rs. 2,18 lakhs and permanent way materials and track tools by Rs. 2,02 lakhs. There were also minor decreases under workshop machinery, etc., building materials, etc., and 'stores hardware', copper, tin, etc., amounting to Rs. 1,34 lakhs. There was a slight increase of Rs. 27 lakhs each under engineering plants, etc., and electrical and train and locomotive lighting plants, etc.

The following statement presents a summary of the stores purchased during 1950-1 and the corresponding figures for 1949-50. The detailed figures are given in Appendix A of Volume II of this Report.

VALUE OF RAILWAY MATERIALS PURCHASED DURING 1950-1

(Figures in lakhs)

Particulars	Including Bikaner State, Jodhpur, Mysore State and Nizam's State* Railways					Total purchases excluding Bikaner State, Jodhpur, Mysore State and Nizam's State Railways	
	Imported materials			Indigenous materials	Total		
	Purchased direct	Purchased through agents in India	Total imported materials			1949-50	**1950-1**
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(A) Bridge work and its parts, fittings and special fastenings.	..	4	4	5	9	9	**9**
(B) Engineering plant and components including all hand and power machinery.	3	42	45	16	61	34	**61**
(C) Workshop machinery, plant and equipment including pneumatic machinery and tools.	7	86	93	23	1,16	1,87	**1,15**
(D) Permanent way material and track tools.	2,41	2	2,43	6,81	9,24	11,10	**9,08**
(E) Rolling-stock . .	3,94	4,61	8,55	6,24	14,79	16,60	**14,42**
(F) Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	16	16	32	1,57	1,89	2,09	**1,88**
(G) Stores, hardware, copper, tin and zincware, all leather canvas and India rubber in bulk, materials painters' stores, timber and fuel oil, etc.	19	1,41	1,60	21,89	23,49	23,46	**23,05**
(H) Electrical and train and locomotive lighting plants and materials, etc., and telegraph and telephone equipment.	61	1,57	2,18	1,12	3,30	3,00	**3,27**
All other stores	9	1,49	1,58	23,84	25,42	27,45	**24,68**
TOTAL .	7,50	10,58	18,08	61,91	79,99	86,00	**78,23**
Nizams' State Railway figures for which details are not available.	11	18	29	1,31	1,60	..	..
	7,61	10,76	18,37	63,22	81,59	..	..

*Not included in the detailed break up A to H, etc.

95. Intake of indigenous goods.—Of the total value of purchases of railway stores and materials made during 1950-1 by the Indian Railways, the value of stores imported direct amounted to Rs. 761·18 lakhs. The imported stores purchased in India accounted for Rs. 10,75·50 lakhs. The stores of Indian manufacture or of indigenous origin naturally accounted for the bulk of the expenditure, the amount during the year being Rs. 63,22·21 lakhs or 77·49 per cent of the total.

The comparative figures of total purchases for 1949-50 and 1950-1 in respect of Indian Railways are given below. These include purchases made through the Ministry of Industry and Supply and other Government agencies and purchases of foodgrains for Railway grain shops.

TOTAL VALUE OF PURCHASES OF STORES

(Rs. in lakhs)

Year	Stores imported direct	Imported stores purchased in India	Stores of Indian manufacture, or of indigenous origin	Total value of imported and indigenous stores	Percentage of col. 4 to col. 5
	Rs.	Rs.	Rs.	Rs.	
1949-50	11,05·46	8,36·22	66,58·03	85,99·71	77·42
1950-1 . .	**7,61·18**	**10,75·50**	**63,22·21**	**81,58·89**	**77·49**

The figures in the table for 1950-1 also include purchases made by the former Indian States Railways, *viz.*, the Bikaner State, Jodhpur, Mysore and Nizam's State Railways, while the corresponding figures for 1949-50 do not include such purchases. Separate figures of purchases made by these Railways during 1950-1 are shown below :—

Items	(Rs. in lakhs)
(1) Stores imported direct	29·20
(2) Imported stores purchased in India . . .	29·01
(3) Stores of Indian manufacture or of indigenous origin	2,77·49
(4) Total value of imported and indigenous stores .	3,35·70
(5) Percentage of item 3 to item 4	82·66

96. Value of stores purchased through the Ministry of Industry and Supply.—The comparative figures of the value of stores purchased through the Ministry of Industry and Supply (now Works, Production and Supply) for 1949-50 and 1950-1 are shown below :—

TOTAL VALUE OF STORES PURCHASED THROUGH THE MINISTRY OF INDUSTRY AND SUPPLY

(Rs. in lakhs)

Year	Total value of stores purchased	Value of stores purchased through the Ministry of Industry and Supply (now Works, Production and Supply)	Percentage of col. 3 to col. 2
	Rs.	Rs.	
1949-50	85,99·71	39,89·03	46·39
1950-1	**81,58·89**	**52,09·94**	**63·85**

NOTE.—The figures for 1950-1 also include the value of purchases made for the former Indian States Railways, *viz.*, the Bikaner State, Jodhpur, Mysore and the Nizam's State Railways, the amount of which is not separately available.

97. Value of stores purchases controlled by the Railway Board.—As in previous years, the Railway Board continued to purchase wagons for the Indian Railways. During the year under review, they also placed orders for coaching stock and loco spares for these railways. The value of the stores thus purchased during 1949-50 and 1950-1 by the Railway Board is given below:—

VALUE OF STORES PURCHASES CONTROLLED BY THE RAILWAY BOARD

(Figures in lakhs of Rs.)

Year	Total value of stores purchased	Value of purchases made by the Railway Board	
		Amount	Percentage of the total value of stores purchased
1949-50	85,99·71	4,85·46	5·65
1950-1	**81,58·89**	**5,19·78**	**6·37**

The Board also exercised a great deal of control in the case of purchases of locomotives, boilers, rails and sleepers for railways during the year. But the actual orders for these items are placed either by railways direct, as in the case of wooden and cast iron sleepers, or through the Ministry of Industry and Supply (now Works, Production and Supply). The value of these items amounted to Rs. 15,59·70 lakhs.

98. Value of cash purchases in North America, controlled by the Railway Board.—The total debits raised by the Deputy Accountant General, Industry and Supply, New Delhi, against various Railways during the year 1950-1, on account of the cash purchases in North America, controlled by the Railway Board, amounted to Rs. 7,47,12,479.

99. Direct purchases by Railways.—The value of direct purchases by the Indian Railways during 1950-1 amounted to Rs. 24,41·59 lakhs as compared with Rs. 41,25 lakhs during 1949-50. The figures for 1950-1 also include the value of direct purchases made by the former Indian States Railways, *viz.*, the Bikaner State, Jodhpur, Mysore and Nizam's State Railways.

100. Stores balances.—The statement below compares the total stores balances at the end of 1950-1 with those at the end of 1949-50. These figures are provisional as the accounts for the period 1 April to 14 August 1947 have not so far been closed and the balances to be carried forward in the case of *ex*-States' Railways have not yet been finalized.

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1949-50 AND 1950-1

(In lakhs of rupees)

	1949-50	1950-1
Assam	1,30*	**1,64**
Bengal Nagpur	5,92	**6,81**
Bombay, Baroda and Central India . .	4,31*	**4,47**
Eastern Punjab	3,25*	**3,38**
East Indian	10,72*	**13,65**
Great Indian Peninsula	9,52	**10,70**
Madras and Southern Mahratta	3,57	**3,84**
Oudh Tirhut	3,59*	**4,67**

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1949-50 AND 1950-1—*contd.*

(In lakhs of rupees)

	1949-50	1950-1
South Indian	2,62*	**2,87**
Bikaner State	...	**28**
Cutch State	...	**1**
Dholpur State	...	**2**
Jodhpur	...	**37**
Jaipur State	...	**31**
Mysore State	...	**36**
Nizam's State	...	**1,29**
Rajasthan	...	**17**
Saurashtra	...	**68**
Scindia State	...	**8**
Other Indian Railways	1,85*	**1,59**
TOTAL	46,65*	**57,69**

* Revised.

There is an overall increase of Rs. 11,04 lakhs in the balance at the end of 1950-1 as compared with the balance at the end of 1949-50. Of this, the increase of Rs. 3,57 lakhs is on account of the inclusion of the balances of the *ex*-States' Railways, which were integrated during the year. The chief factors responsible for the increase of the balance of Rs. 7,47 lakhs are heavy receipt of locomotive spares and track materials, unexpected receipt of stores against old indents, less issues to works, rise in prices of materials, and accumulation of scrap due to control imposed on sale of iron and steel.

101. Timber supply situation.—The quantity of timber demanded and the quantity passed by railways during 1950-1 are shown in the following table.

SUPPLY OF TIMBER AGAINST INDENTS DURING 1950-1

Period	Quantity indented	Quantity passed
	Tons	Tons
II Quarter of 1950	33,660	9,885
III „ „ 1950	18,914	5,441
IV „ „ 1950	5,685	4,626
I Quarter of 1951	27,691	9,019
TOTAL	85,950	28,971*

* Quantity passed against all contracts including previous indents.

102. Steel supply situation.—As compared with the previous year, the supply position of steel sections other than rails and fishplates for the year 1950-1 was quite satisfactory.

The requirements of railways during the year were met in full. The quantity demanded and the allocation made by the Priority Authority, namely, the Ministry of Commerce and Industry are summarized below.

Period	Demand of railways	Allocation
	Tons	Tons
II/1950, April-June	46,657	46,657
III/1950, July-September	32,849	32,849
IV/1950, October-December	20,773	20,773
I/1951, January March	18,000	42,076*

* This includes a quantity of 24,076 tons allotted for the execution of Railway Board's Wagon Building Programme 1950-1.

As regards rails and fishplates, supplies to railways from indigenous sources were adequate to meet railways' requirements during the year.

103. Supply position of vital stores or components of first importance.—

Imported stores.—The general supply position of imported stores *ex* United Kingdom improved during the year under review. There were, of course, a few cases where supplies were delayed and this was caused partly by the shortage of supply of raw materials.

The following items were outstanding at the close of 1950-1 against late Central India Railway Service old demands.

1944	Demands	5
1945	Indents	9
1946	Indents	33
1947	Indents	23

The items mainly comprise chains and lenses, and certain steel items. The Director General, India Stores Department, London, is endeavouring to complete the above items as quickly as possible.

The main items on order from United States of America were spares for locomotives. The general supply position of locomotive spares has been satisfactory during the year.

There is one case of gauge glasses where supplies due from Australia are still outstanding. This represents requirements of several railways and some of them wanted cancellation of outstanding quantities, but suppliers in Australia did not agree to it as the major portion of the stores had already been manufactured. The indenting railways have, therefore, been requested to accept the stores. It is expected that this case will be completed during the current financial year.

Indigenous stores.—The position regarding vital items of stores is given below.

Wheels, types and axles.—Messrs. Tatas are the only indigenous manufacturers of these stores. Their capacity is fully utilized against the Wagon Building Programme and the maintenance requirements of the Indian Railways. Rolling programmes were drawn up every quarter and supplies arranged on an equitable basis for all the Indian Railways and other private companies commensurate with the urgency of their requirements. Demands for axles, however, exceeded the capacity available and the backlog was, therefore, transferred to United Kingdom.

Cast Iron Pipes and specials.—The indigenous capacity being limited cannot cope with the demands received by the Director General, Supplies and Disposals. The available capacity is booked for various urgent projects till 1952. In respect of 3″ and 4″ to 6″ sizes, it is, in fact, booked up to the middle of 1954 and early 1953 respectively. Steps taken so far to establish additional capacity for manufacture of Central India Specials of sizes 3″ to 12″ have not yet borne fruit, the new firms proposed being not yet capable of undertaking manufacture to British Standard specification. The delivery against the railway demands was, therefore, affected.

Steel castings.—The indigenous capacity for Standard Steel Castings was surplus and the deliveries were up-to-date. Sufficient capacity is now available for non-standard steel castings also and supply was satisfactory. Sometimes delays take place owing to the time required for making patterns, tools, dies, jigs, etc.

Permanent way materials.—Supply position of steel continued to be the limiting factor in the production of the track materials. There was, therefore, no appreciable improvement in the delivery of the fabricated articles to the Railways.

Structurals.—Shortage of steel plates continued to be the main bottleneck in the manufacture and supply of structurals against the railway demands.

Fire-bricks.—Supply position of this store has been satisfactory.

104. Situation regarding theft of railway property.—Fourteen cases of thefts of stores and valuable materials amounting to Rs. 64,248 were reported in the course of the year by the Bombay, Baroda and Central India, East Indian and Great Indian Peninsula Railways. In six cases (four on the Bombay, Baroda and Central India Railway and two on the East Indian Railway) necessary steps to tighten up the security measures to prevent recurrence of the cases of the nature have already been taken. In the remaining eight cases security measures are being taken.

105. Water softening.—Water softening plants are in use on the following Railways:—

Great Indian Peninsula Railway.—Twelve plants have been installed on the Poona-Raichur section out of a total of 14 programmed for installation. Of these, three are base exchange plants and the rest are of the lime soda type.

Bengal Nagpur Railway.—Water softening plants have been installed all along the whole East Coast section from Shalimar to Waltair. There are at present eight lime soda water softeners (four Paterson type and four Kennicott type), three base exchange plants and twenty-one by-pass feeders.

Bombay, Baroda and Central India Railway.—There are eleven lime soda plants (ten of the Kennicott type and one Lassen and Hjort type) in the broad gauge section and eight Lassen and Hjort lime soda plants in the metre gauge section.

The Bikaner State Railway has nine lime soda plants, Jodhpur Railway has six while the Madras and Southern Mahratta Railway has one functioning at Rajmundry. Data regarding the cost of treatment as against the reduced cost of maintenance and increased availability of locomotives are being collected. A sub-committee has been formed to study the performance of water softening plants and make suitable recommendations regarding efficient water conditioning.

CENTRAL STANDARDS OFFICE FOR RAILWAYS

106. General.

The Central Standards Office for Railways continued to perform, on a comparatively expanded scale, research, design and standardization functions in the Civil and Mechanical Engineering fields. Research in metallurgical, fuel, soil mechanics and housing problems of railways also received attention. Action was initiated to reorganize this office to enable it to take over, progressively, the functions of the overseas Consulting Engineers in the interest of national self-sufficiency. Brief details of the more important work undertaken by the different wings of this office during the year under review are given below.

(A) CIVIL ENGINEERING WING

107. Research.

(i) *Track research*—

When new WP class express passenger locomotives were introduced on the Indian Railways, a few reports were received that they were heavier on track as compared with the existing BESA class locomotives. It was, therefore, decided to carry out comparative tests on track with both the WP and BESA class locomotives. The main line near Rundhi station on the Delhi-Mathura section of the Great Indian Peninsula Railway, which is laid with 85 lb. BH rail on N+2 C. I. pot sleepers, was chosen for these field tests. A test train consisting of one WP locomotive, one Dynamometer Car, three bogie carriages and one BESA locomotive, was run at different speeds up to 63 m.p.h. over the test track and the stresses produced in the rails under the two types of locomotives under identical conditions were recorded by means of electric strain gauges. These tests were carried out in June 1950. In July 1950 another series of tests were carried out at Pollireddipalem station on the Madras-Bezwada section of the Madras and Southern Mahratta Railway where the track is laid with 90 lb. B.S. rails on N+2 wooden sleepers. The stresses on the rails were observed and recorded under WP class engines only at various speeds.

The test results indicated that stresses in rails and fishplates under both the WP and BESA class locomotives were about the same for speeds up to 63 m.p.h. and that maximum stresses in the track under WP class locomotives at normal maximum speeds were well within the permissible limits.

About this time several cases of failures of 100 lb. D.H. rails occurred on the East Indian Railway. The opinion of the Director of Inspection (Metallurgical), Alipore, was that the failures may be due to bad composition and insufficient cropping of the rails at the time of manufacture, or to fatigue.

In order to determine the cause of these failures, stresses in the rails under actual service conditions were recorded at Barhan station on the East Indian Railway by means of electric resistance strain gauges. Pieces from the same rails were later tested under a rolling load fatigue testing machine in the Research Laboratory at Shakurbasti.

Both these tests conclusively proved that the rails were not fatigued, and the failures were due to bad composition and defective manufacture.

In order to determine the lateral strength of different types of track with varying densities of sleepers, it was decided to lay test lengths of track between Lonavla and Poona Stations on the Great Indian Peninsula Railway. These tests could not be carried out during the year as the only oscillograph car available was being utilized for higher priority flange force trials elsewhere. A second oscillograph car is now being fitted up and it is hoped that these experiments will be carried out in the near future.

(ii) *Building research*—

A number of buildings constructed on different types of foundations in black cotton soil are under observation. In addition, laboratory research is in progress to determine the causes and the remedy for the cracks occurring in buildings erected on black cotton soil.

Tests on soil samples received from various railways have been carried out to assess their suitablity for stabilization. A few buildings have been constructed in PISE and ADOBE, and observations so far made indicate that ADOBE construction is superior to PISE, inasmuch as it is less prone to cracking and the plaster sticks better. Analysis of costs indicates that stabilized soil construction is economical if a large number of units are constructed in one place where adequate supervision is provided and where the cost of bricks is more than Rs. 40 per thousand.

Experiments with vermiculite were continued but in view of the high cost of the material, it was considered that vermiculite could not be advantageously used for railway works, and the results so far obtained have been sent to the Building Research Station, Roorkee, asking them to intimate the results of further experiments, when conducted by them.

Experiments on precast cinder concrete blocks were undertaken to find suitable mixtures and grading for various conditions. Four units of 'A' type quarters are under construction at Delhi-Kishenganj to see the behaviour of these blocks under actual conditions.

Experiments were carried out to find the suitability of 'Coprox' as a water-proofing powder. The material appears suitable and gives a good smooth white surface. The indications are that after continuous immersion for two days in water it deteriorates in quality and loses some of its water-proofing properties ; but for short duration it stands up fairly well. Further experiments are in progress to determine its utility in buildings. The cost appears to be rather high.

(iii) *Soil Mechanics research*—

Laboratory and equipment—

Some additional equipment has been received and installed in the new laboratory recently constructed at Shakurbasti. A 4-inch dia. sampler has been specially designed for use with the 2-inch porter sampler equipment and manufactured in Railway Workshops.

A large number of tests were conducted during the year on various soils in connection with soil mechanics and foundation problems. Some of the results obtained have been used to design the most suitable foundations and embankments. A few of the important cases are given below:—

Malviya Rail-Road Bridge over the Ganga river at Banaras—

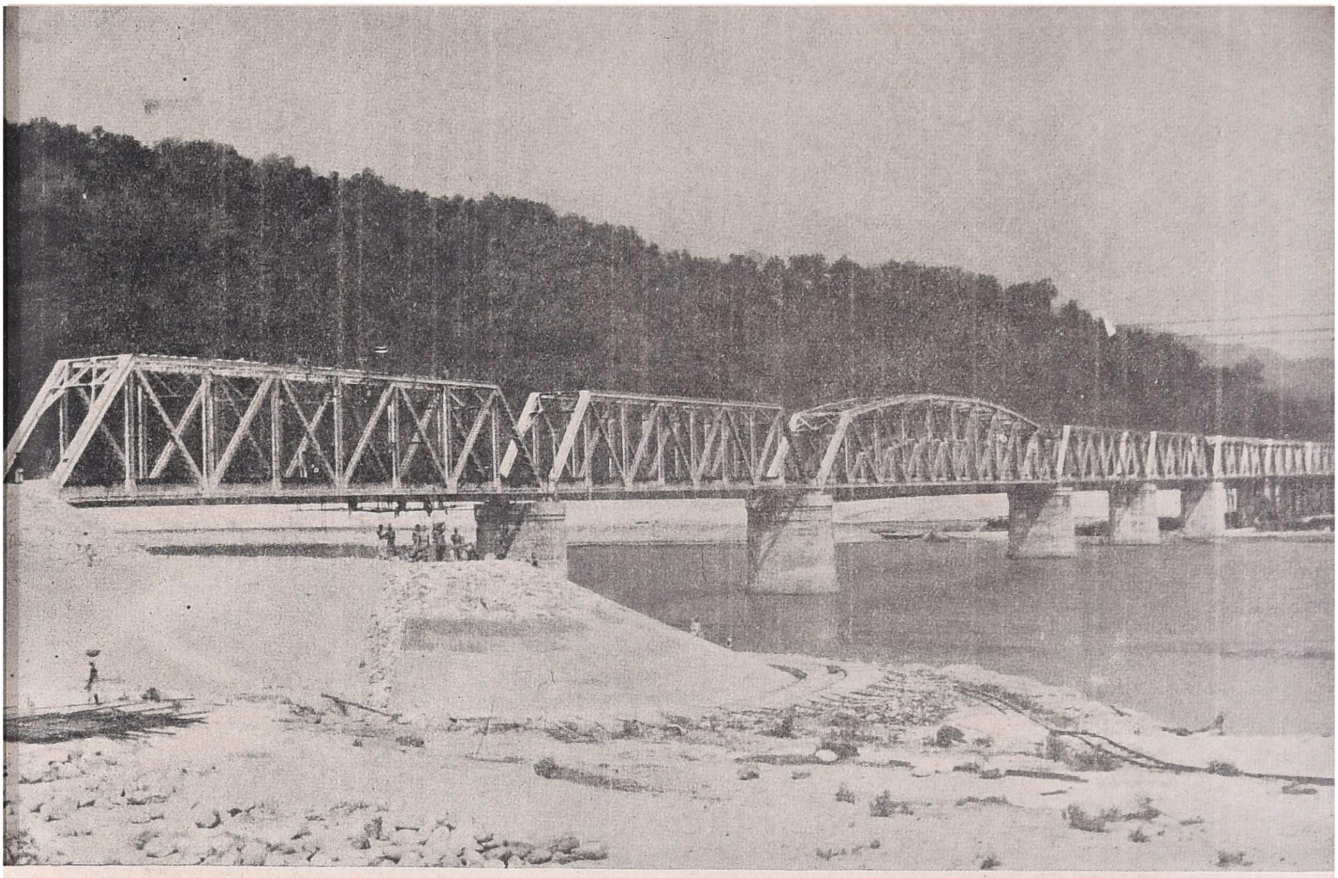
Computations indicated that the stability of piers Nos 2 & 3 is largely dependent on the pitching laid around the piers. To keep this pitching in position four necklaces, made of precast concrete blocks chained together, have been laid. These stood up well during the last floods.

Beas River Bridge—Eastern Punjab Railway—

The soil in the foundation for the new bridge has been tested and the safe bearing pressure determined. The tests indicate that the settlement of the bridge piers was an important factor and calculations were, therefore, made and the probable settlement predicted.

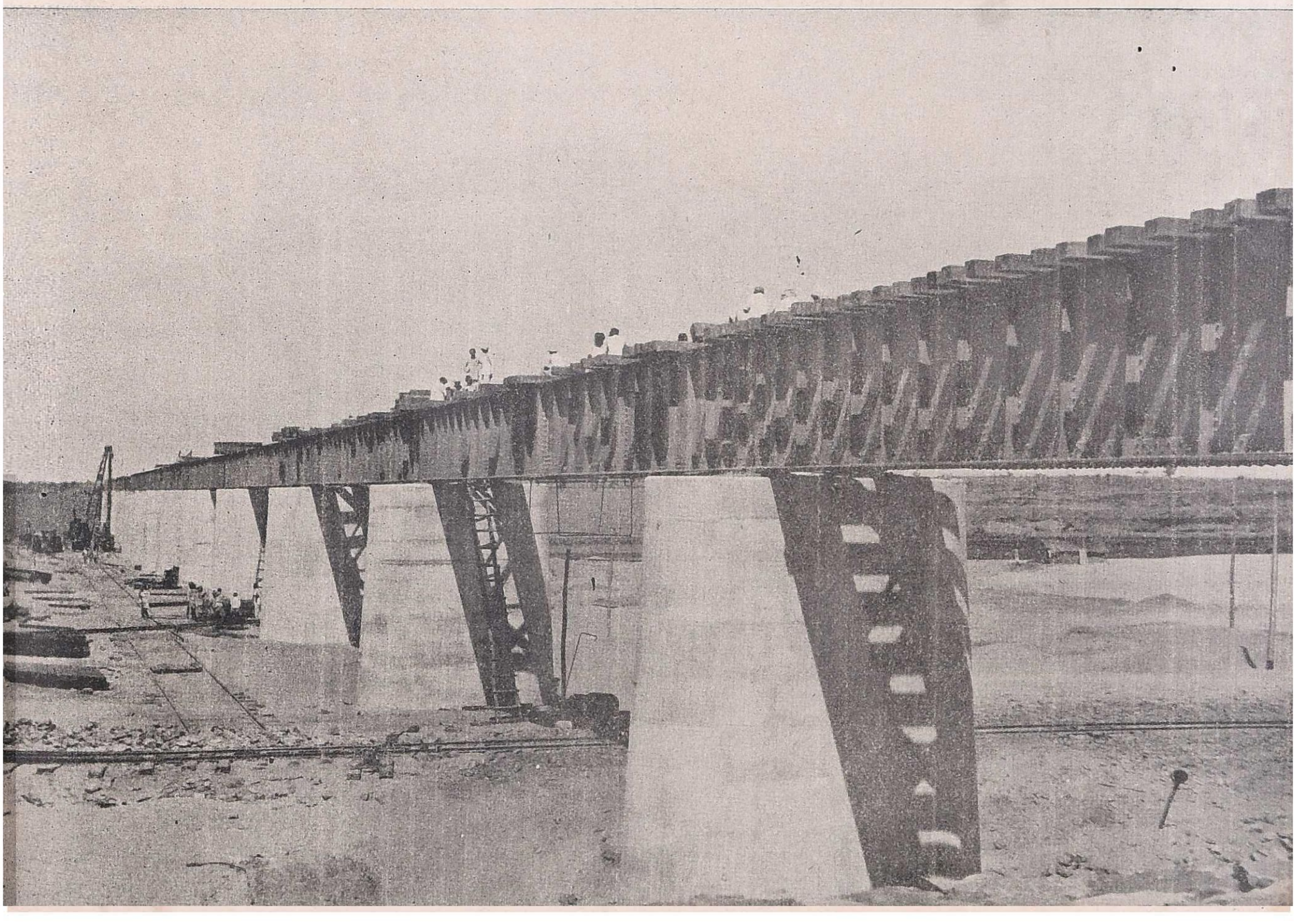
Kandla Harbour Project—

Extensive underground investigations and tests have been made in connection with the design of this project.



THE TISTA BRIDGE ON THE ASSAM RAIL LINK.

KANDLA-DEESA RAILWAY—THE BRIDGE ON THE BANAS RIVER NEAR DEESA UNDER CONSTRUCTION.



Retaining walls—

On the Kangra Valley Railway there have been a number of retaining wall failures. A special investigation indicated that the forces on walls constructed to retain soft creeping detritus, overlying hard rock, may be 1·6 to 2·7 times the active earth pressure normally adopted.

Embankments—

A general note on the design of embankments was prepared and circulated to all Railways.

Courses in soil mechanics and foundation engineering—

To impart elementary training in soil mechanics and foundation engineering to the Railway Engineers, four short courses of 10 days' duration were held at Shakurbasti Research Station. Thirty-two Engineers from different Railways attended these lectures.

108. Designs.

Bridges—

Due to the overall shortage of steel, it has been found necessary to adopt pre-stressed concrete for railway bridge girder spans. Pre-stressed concrete is more economical in material than ordinary reinforced concrete. Standard drawings for 100 ft. span B. G. M. L. in pre-stressed concrete have been prepared.

In the existing design of 150 ft. standard span for M. G. M. L. a clearance of 12′-6″ was provided. It has been found on the Assam Railway that carriages with open doors foul the girders. A new standard span with 14 ft. clearance has therefore been prepared.

A portion of the existing Cutch Railway is being converted into metre gauge in connection with the Kandla Deesa Construction Scheme. On this line an arch bridge consisting of 23 spans of 20 ft. has been found too weak for M. G. loading and designs have been prepared for strengthening this bridge to bring it up to M. G. M. L. standard.

A flexible type turntable 75 ft. in diameter for B. G. M. L. standard, with three supports, has been designed and standardized. This type of turntable is more economical as it weighs only about 30 tons as compared with 70 tons for the balanced type turntable, and it also requires a shallower pit. It is proposed to try out this new design of turntable on a number of railways.

Track—

In the standard crossing, the junction of the splice rail with the point rail has been found to be weak and a number of crossings have failed at this point on the Bombay suburban section. A new design with over-riding type of splice rail has been proposed.

The proposed new rail sections have been further modified as a result of discussion at the Track Standards Committee Meeting and these new rail sections are expected to be rolled in 1952-3.

A revised drawing for movable switch diamonds, on wooden sleepers, has been prepared, as the earlier design has not been found suitable in actual practice.

A design of curved switch for 1 in 12 crossing has been prepared which will provide for smoother riding of the locomotive while entering the turnout.

Signalling and Interlocking—

Drawings for double wire signalling and electrical components have been taken in hand. A number of drawings have been completed and circulated to railways for their comments.

109. Standards Committees.

Bridge and Structures Standards Committee—

The rules for providing camber on girder spans have been revised so as to permit lesser camber being given, as it has been found that the existing practice provides excessive camber.

A number of clauses in the Steel Structures Code dealing with wind pressures have been revised so as to conform with the wind chart received from the Meteorological Department.

A standard profile for 300 ft. combined road-rail bridge span, and details for common road-rail deck of road-*cum*-rail bridges, have been evolved. General drawings of a 300 ft. road-rail bridge girder span have been prepared.

The longitudinal loads for road bridges have been incorporated in the Bridge Rules and a number of additions and alterations have been made to bring the Codes and Rules up-to-date.

Track Standards Committee—

The Committee recommended sand blanketting for maintenance of weak formations. The standard sections of ballast have been approved and the spacing of joint sleepers have been specified. The speed over 1 in 16 turnouts have been decided. A number of alterations to C.S.T.-9 design have been proposed.

Signalling and Interlocking Standards Committee—

This Committee has finalized the draft rules relating to signalling and interlocking which will replace Chapter VIII and supplement the rules in Chapter IX of the " Rules for the opening of a railway or section of a railway for the public carriage of passengers ".

The Committee has also dealt with the design of new standard signal arms, channel pins, the safety certificate forms, switch diamond for 1 in $8\frac{1}{2}$ crossings, directional point indicators and general principle of receiving trains at crossing stations.

Building Standards Committee—

This Committee dealt with the cheap type of construction of single storey quarters, reinforced concrete frames for windows and doors, standardization of layouts of buildings and use of felts, bituminous and asphalt mastics for roofing and damp-proof course.

110. Miscellaneous—

An Indian Railway Standard Code of Practice for the design and construction of earthquake resistant buildings and structures has been sent for printing. The Arch Bridge Code has been revised and reprinted. The Codes of Practice for pier and abutment, plain concrete, reinforced concrete, road-rail bridge, welding and steel bridge have been reprinted.

(B) MECHANICAL ENGINEERING WING

111. Research.

Locomotive research—

During the year two oscillograph cars, one for metre gauge and the other for broad gauge, were built to house the electronic equipment. Tests were undertaken on YP and YG class prototype metre gauge locomotives to determine their safe operational speeds. Both types were found to run very steadily and the recorded flange forces were well within the permissible safe limits. In consequence YP locos were permitted to run at unrestricted speed up to 45 m.p.h. and YG locomotives at 35 m.p.h.

On the basis of oscillograph trials with W. P. prototype locomotives during the year 1948, certain improvements to the inter buffer drawgear were incorporated in the design for the bulk order. Tests conducted on the modified locomotives at speeds up to 70 m.p.h. showed that the riding qualities had improved and flange forces were well below the permissible safe values. The WP locomotives were, therefore, permitted to run at speeds up to 60 m.p.h.

With a view to collecting sufficient data on the safe speed of operation for the information of the French Experts Committee, oscillograph tests were undertaken on the new WG class locomotives. These locomotives were found to possess excellent riding qualities and the flange forces recorded were well below the safe limits. They were permitted to run at speeds up to 45 m.p.h.

A series of rating and performance trials were undertaken on the Great Indian Peninsula Railway on a prototype WG locomotive. This class was newly introduced on Indian Railways and is specially designed as a sister class to the WP with maximum interchangeability of parts. The trials have confirmed the superior performance of WG locomotives over the earlier types such as XD and WD.

Carriage and Wagon Research—

Static and impact tests were completed on an integral type all-metal prototype coach built by Messrs. Hindustan Aircraft Ltd.

Fuel research—

The Fuel Test Car was engaged during the year primarily for educating the operating staff in the correct technique of handling coal with excessive clinkering properties. A series of tests under service conditions were also undertaken to investigate the causes of high coal consumption on the Bengal Nagpur Railway.

Dynamometer car trials were carried out with a view to studying the effect of secondary air on the efficiency of combustion relative to the furnace proportions as now obtaining in the existing Indian locomotive boilers. The first series of trials were carried out on a stoker fired XE_1 locomotive. The results of these trials showed that combustion efficiency could be improved to the extent of $1\frac{1}{2}$ per cent to 2 per cent without using any special device for admitting secondary air into the furnace. The results also indicated that combustion efficiency would be further improved if (1) the admission of secondary air was regulated in order that the amount of air admitted into the furnace was not much in excess of the requirements, and (2) the secondary air was admitted in a manner so as to set up turbulence in the combustion space. Further trials were programmed with a view to examining these features.

112. Designs—

Review of important design work undertaken during the last financial year 1950-1 included the following items :—

Locomotives—

No new locomotive types were designed during the year. A considerable part of the work done in the design office related to improvements to components of existing types of locomotives. Particular attention was given to the WP, WG, YP and YG class locomotives.

Particular specifications were prepared for ZF/1 class NG locomotive and XD, YD and YF class boilers on order. Modification lists to original specifications were also forwarded to the India Supply Mission for guidance in preparing specifications for A/CWD boilers and bar frames of MAWD locomotives.

Carriages—

The preparation of designs for all-metal lightweight passenger carriages initiated during the previous year in collaboration with engineers deputed to India by Schlieren continued during this year. A large number of detailed drawings were completed as also new layouts for lightweight stock.

New designs were prepared for all-metal coaches of 10′-8″ width on standard 68′-0″ broad gauge underframes with anti-telescopic end construction and improved amenity standards.

The design of the Watson type bogie for metre gauge carriage underframes was modified to permit of adequate clearances between the moving parts under a wide range of operating layouts.

New layouts were prepared for accident relief trains for distribution to railways.

A new design was prepared for ice-activated refrigerator van for broad gauge.

Wagons—

The designs of the experimental lightweight, covered and open wagons, were modified in the light of static and impact tests conducted on the prototype wagons.

The designs of petrol tank wagons for metre and narrow gauges were modified to include all the controls being placed inside the dome and the provision of a bottom discharge arrangement on the lines of the broad gauge design.

Alternative designs were prepared for built-up type goods bogie bolsters for broad and metre gauge stock. For the first time welding was adopted for the wagons bogie bolsters.

A new design was prepared for broad gauge goods brake vans embodying a loading platform at one end and the guard's compartment at the other with improved amenities.

113. Standards Committees—

Locomotive Standards Committee—

The Locomotive Standards Committee held its annual meeting in the Central Standards Office in December 1950. Apart from improvements to components of existing IRS locomotives, the following features were considered and approved.

(1) Alternative designs of fabricated construction such as tender bogie frame originally designed in cast steel for WG locos in order to facilitate manufacture in the TELCO and Chittaranjan Locomotive Works.

(2) Introduction of welded components, such as washout plug seating, on boilers as a first step to more extensive use of welding.

(3) Revised design of double sword type spring hangers for WP locos in order to overcome the defect with the original spring rigging which was reported to come in contact with the bar frame owing to limited clearances.

(4) Recording the Railway Board's decision to obtain from Messrs. TELCO five YG locos fitted with welded tanks in order to gain experience with welded tanks following German technique in welding, although in the previous Locomotive Standards Committee Meeting, it has been decided to revert to riveted construction for tender tanks, in view of the unsatisfactory performance of the welded tender tanks obtained from other suppliers.

Carriage and Wagon Standards Committee—

The Carriage and Wagon Standards Committee held its thirtieth meeting in February 1951 and dealt with an agenda of 55 items. The following were the main subjects discussed :—

(1) Evolving separate designs for motor and parcel vans (both Broad Gauge and Metre Gauge).

(2) Composition, equipment and floor plans for accident relief trains.

(3) Improvement in the amenity standards in all classes of passenger stock on Broad Gauge and Metre Gauge Railways.

(4) Improvement in lavatories of passenger coaching stock as regards flushing arrangements and prevention of draught through the chutes.

(5) Use of indigenous timbers, other than teak, for coach building and repairs, trials with indigenous timbers for coach panelling and the use of suitable and economical preservative of indigenous origin, for their protection against termite, fungus, rot, etc.

(6) All-steel construction of coach bodies on standard underframes.

(7) Trial of roller bearing axle boxes on wagon stock.

(8) Consideration of the report of the *ad hoc* sub-committee on matters relating to the centre buffer couplers fitted to Metre Gauge stock, namely, interchangeability of various types of centre buffer couplers, standardization of service gauges for centre couplers, alternative designs of the centre buffer parts to facilitate easy manufacture and avoid production hold-up, and consideration of 'Buckeys' couplers in preference to existing types of centre couplers.

(9) Consideration of ways and means to reduce the incidence of hot boxes mainly on the wagon stock.

(10) Consideration of the reports of the sub-committee appointed to lay down principles of the repair schedule for rolling-stock.

(11) Consideration of ways and means of improving the standard of repairs and maintenance on sick lines and workshops.

General—

(1) Investigation was made to improve the design of the drawgear to suit increased locomotive drawbar pull.

(2) Investigation was made concerning the interchangeability of the various types of centre buffer couplers and design of service gauges for the couplers, fitted to the Metre Gauge stock was prepared.

(3) A preliminary comparative study was made covering the characteristics of the rubber *versus* steel springs for Broad Gauge side buffers.

(4) Particular specifications were prepared for the various types of rolling-stock ordered against 1951-2 programme in India and abroad.

(5) The preparation of standard drawings for the Carriage and Wagon, Electrical and Stores and Specifications Standards Committees was continued.

Indian Railway Fuel Committee—

An informal meeting of the Indian Railway Fuel Committee was held during the year to review the progress made by the Railways in regard to the implementation of their recommendations.

(C) GENERAL

114. Specifications—

Indian Railway Standard Specifications—

The normal work of keeping Indian Railway Standard Specifications up-to-date continued throughout the year. One new Indian Railway Standard Specification was issued and 18 Indian Railway Standard Specifications were revised and reissued. In addition, four new Indian Standards Institution Specifications were adopted for use on railways and one War Emergency Revision Slip to Indian Railway Standard Specification was withdrawn.

The following particular specifications for broad, metre and narrow gauge Indian Railway Standard rolling-stock and details were prepared:—

(*a*) TPR Type Wagons.
(*b*) MC " "
(*c*) MOX " "
(*d*) MBTPX " "
(*e*) NOB " "
(*f*) NTP " "
(*g*) Bogie coaching underframes 56′-6″ long (MG).
(*h*) Bogie " " 34′-6″ long (NG).

115. Standards Committees—

Standing Committee on Standards and Specifications—

The Standing Committee on Standards and Specifications met during the year. A resumé of the main items dealt with by the meeting is given below:—

(1) The revisions carried out during the year to Indian Railway Standards Specifications was considered and approved.

(2) Indian Standards Institution Specification adopted for Indian Railway purposes during the year were considered and approved. The question of the wholesale adoption of Indian Standard Specifications was also discussed and recommendations made.

(3) A consolidated chart for welding rods (electrodes) prepared by this office was adopted for railways in place of the existing list appearing with the Guide to Indentors and Catalogue for Welding Rods.

(4) A new Standard Design of white metal uniform buttons for Indian Railway staff was prepared and approved by the Committee.

Electrical Standards Committee—

The Electrical Standards Committee met during the year. A resumé of the main items dealt with by the meeting is given below:—

(1) The question of application of fluorescent lighting to coaching stock was considered and it was decided that in view of the fact that this system of lighting is very expensive and the majority of the equipment has to be imported, the subject may be considered as closed.

(2) It was decided that all fully equipped coaches in service and all future new builds should be fitted with external embarkation lights.

(3) A list of permissible alternatives of Train Lighting Components and locomotive head light generators, switchgear, etc., was drawn up by the Committee showing accepted makers and brands which have been used in the past and have given satisfactory and efficient service.

Indian Railway Chemists and Metallurgists Committee—

The second meeting of the Committee was held at Chittaranjan in March 1951. The subjects discussed included heat treatment of points and crossings; heat treatment of loco components; improvements in the quality

of cast iron parts ; cast iron packing rings ; springiness of piston rings ; rotary furnace for the manufacture of cast iron ; defects in castings ; water treatment ; high tensile low alloy steel ; welding of coupling and connecting rods ; re-clamation of lubricating oils ; material failures and fatigue phenomenon.

Chemical and Metallurgical Research—

A number of investigations were carried out during the course of the year on failures of locomotive and track components and fire-bricks.

116. Miscellaneous—

French Expert Committee—

The French Expert Committee arrived in India in January 1951 and conducted their investigation on the design and performance of the WP locomotives with special reference to the riding qualities. The Committee was provided with considerable data regarding the design, specification and details of research work done on this class of locomotive. The Drawing Office also assisted the Committee in the preparation of layouts and drawings in accordance with the Committee's directions.

Locomotive Design Office—

With the implementation of the scheme for manufacturing locomotives in India and the gradual taking over of the Design and Inspection responsibilities from Overseas Consulting Engineers, it was anticipated that the volume of the work for the locomotive Design Section of the Central Standards Office would grow rapidly and a scheme for reorganisation of the Design Drawing Offices was prepared for consideration of the Board.

Library—

During the year new books and catalogues have been added to the Central Standards Office library, which now contains about 1,675 books and 750 catalogues. Technical journals and periodicals from 44 institutions and firms are being received for circulation and record purposes. Articles of interest are being indexed for future reference and guidance.

The office is a member of the following Institutions and regularly received their publications which are circulated and used for reference purposes :—

1. Association of American Railroads (U.S.A.).
2. American Railway Engineering Association (U.S.A.).
3. American Society for Testing Materials (U.S.A.).
4. Railway Fuel and Travelling Engineers' Association (U.S.A.).
5. Master Boilermakers' Association (U.S.A.).
6. International Association for Bridge and Structural Engineering (Switzerland).
7. British Non-Ferrous Metals Research Association (U.K.).
8. British Cast Iron Research Association (U.K.).
9. Institute of Welding (U.K.).
10. Indian Institute of Metals (Calcutta).
11. Indian Roads Congress (New Delhi).
12. Indian National Society for Soil Mechanics and Foundation (Simla).

The Central Standards Office represented the Ministry of Railways on the—

1. Central Boilers Board functioning under the Ministry of Works, Production & Supply. The Deputy Chief Controller of Standardization I/C also acted as the Technical Adviser to that Ministry on matters relating to the Central Boilers Act (1923).
2. Development Committee of the Non-Ferrous Metals Industry functioning under the Director-General of Supplies & Disposals.
3. Indian Standards Institution General, Chemical and Engineering Councils, and on 17 Sectional Committees of this Institution, embracing 26 Sub-Committees.

CHAPTER VII

STAFF

117. Number of Staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto, excluding staff employed on construction, at the end of 1950-1 was 919,747 as compared with 896,166 at the end of 1949-50. The total route mileage at the end of the year was 34,079.

118. Cost of Staff.—The following statement shows the number and cost of all staff, Classes I, II, III and IV, permanent and temporary, open line and construction, employed on Class I Railways during the years 1949-50 and 1950-1. The labour employed by contractors is not included.

NUMBER AND COST OF STAFF ON CLASS I RAILWAYS DURING 1949-50 AND 1950-1

Railway	Year	Number of staff on 31 March						Staff on loan from the Indian Audit and Accounts Service	†Cost of staff during the year ending 31 March			
		Open line			Construction							
		Classes I & II	Classes III & IV	Total	Classes I & II	Classes III & IV	Total		Classes I & II	Classes III & IV	Total	Total including staff on loan from the Indian Audit and Accounts Service
Assam	1950*	126	41,621	41,747	..	..	..	..	11,00,265	4,82,39,599	4,93,39,864	4,93,39,864
	1951	130	45,423	45,553	..	..	..	..	12,02,944	5,11,66,063	5,23,69,007	5,23,69,007
Bikaner State	1950	21	5,761	5,782	..	..	..	..	1,79,503	42,54,351	44,33,854	44,33,854
	1951*	21	5,876	5,897	..	..	..	..	1,81,889	62,15,408	63,97,297	63,97,297
Bengal Nagpur	1950	253	101,530	101,783	..	..	..	..	39,23,979	12,26,70,453	12,65,94,432	12,65,94,432
	1951	243	109,602	109,845	..	..	..	..	31,15,634	13,22,12,488	13,53,28,122	13,53,28,122
Bombay, Baroda and Central India	1950*	208	89,105	89,313	..	230	230	..	33,59,937	11,25,48,293	11,59,08,230	11,59,08,230
	1951	246	93,414	93,660	..	1,203	1,203	1	32,42,343	11,93,43,187	12,25,90,530	12,26,22,530
East Indian	1950*	439	208,617	209,056	16	1,130	1,146	..	58,53,267	25,99,21,952	26,57,75,219	26,57,75,219
	1951	409	209,724	210,133	3	235	238	..	57,97,404	26,96,84,388	27,54,81,792	27,54,81,792
Eastern Punjab	1950*	83	45,657	45,740	1	1,185	1,186	..	17,36,616	5,95,03,545	6,12,40,161	6,12,40,161
	1951	138	49,361	49,499	1	1,791	1,792	..	15,41,709	6,24,07,215	6,39,48,924	6,39,48,924
Great Indian Peninsula.	1950	209	144,234	144,443	..	..	..	1	45,70,895	15,24,56,930	15,70,27,825	15,70,71,480
	1951	296	145,490	145,786	..	..	..	1	45,68,169	16,59,97,052	17,05,65,221	17,06,02,171
Jodhpur	1950	33	7,024	7,057	..	..	..	..	3,28,221	61,73,234	65,01,455	65,01,455
	1951	30	7,434	7,464	..	..	..	..	2,49,762	77,60,592	80,10,354	80,10,354
Madras and Southern Mahratta.	1950	154	71,295	71,449	..	..	..	..	23,38,155	8,35,33,744	8,58,71,899	8,58,71,899
	1951	142	67,715	67,857	..	..	..	1	22,60,534	8,54,35,911	8,76,96,445	8,77,36,445
Mysore State	1950	54	9,918	9,972	..	..	..	..	2,67,386	68,26,205	70,93,591	70,93,591
	1951	54	9,865	9,919	..	..	..	..	3,16,637	1,19,32,723	1,22,49,360	1,22,49,360
Nizam's State	1950	90	21,664	21,754	3	188	191	..	13,24,853	2,20,76,864	2,34,01,717	2,34,01,717
	1951	50	20,927	20,977	..	7	7	..	10,02,796	2,68,75,276	2,78,78,072	2,78,78,072
Oudh Tirhut	1950*	149	50,664	50,813	..	..	..	..	22,10,297	5,79,97,098	6,02,07,395	6,02,07,395
	1951	162	53,382	53,544	..	..	..	..	18,10,723	6,15,67,409	6,33,78,132	6,33,78,132
South Indian	1950	142	57,115	57,257	..	..	..	..	21,76,079	6,91,79,682	7,13,55,761	7,13,55,761
	1951	164	61,395	61,559	1	71	72	..	21,35,760	7,25,57,325	7,46,93,085	7,46,93,085
Railway Clearing Accounts Office	1950	4	2,101	2,105	..	..	..	1	68,247	37,40,525	38,08,772	38,64,871
	1951	5	2,154	2,159	..	..	..	..	1,12,806	38,62,546	39,75,352	39,75,352
TOTAL	1950*	1,965	856,306	858,271	20	2,733	2,753	2	2,94,37,700	1,00,91,22,475	1,03,85,60,175	1,03,86,59,929
	1951	2,090	881,762	883,852	5	3,307	3,312	3	2,75,39,110	1,07,70,22,583	1,10,45,61,693	1,10,46,70,643

*Represents revised figures for 1949-50 due to changes made by the railway administrations in the figures published last year.

†The figures of cost of all Railways represent pay, allowances, passages, provident fund contribution and gratuity and the value of grain shop concessions in the case of Indian Government Railways.

A comparison of the figures for 1950-1 with those for the previous year shows that the total number of staff employed on the open line of Class I Railways increased by 25,582 during the year, while the number of construction staff increased by 559. The increase on 'open line' was due mainly to the implementation of the Adjudicator's Award on the former nine Government Railways where additional staff had to be provided for this purpose.

The total cost of staff including that of staff on loan from the Indian Audit and Accounts Service increased by Rs. 6,60,10,714 during the year as compared with the previous year.

119. Direct recruitment to the Superior Railway Services.—Thirty-six appointments were made to the Superior Railway Services by direct recruitment during the year. The details by departments are given below:

Department	*Number*
(1) Engineering	9
(2) Accounts	3
(3) Establishment	...
(4) Transportation, Traffic and Commercial	12
(5) Transportation (Power) and Mechanical Engineering	7
(6) Others	5
TOTAL	36

120. Promotions to Superior Railway Services.—Three promotions were made during the year from Class II and Class III services. The promotions were against vacancies earmarked for the year 1947-8 which could not be filled during that year.

121. Confirmation of Temporary Staff.—In accordance with the undertakings given to labour and the general policy of Government, Railway Administrations are continuing to review all temporary posts with a view to converting them into permanent posts where justified and to confirming temporary staff to the extent this can be done in such posts, as well as in normal permanent vacancies. Orders have also issued permitting railways to convert into permanent up to 75 per cent of the posts created for implementing the Adjudicator's Award. The position of conversion of temporary posts into permanent and the confirmation of temporary staff as on 31 March 1951 was as follows:—

Total number of temporary posts converted into permanent	88,260*
Total number of temporary staff confirmed	172,103*
Total number of temporary staff, excluding (i) staff under training and on probation, (ii) workshop staff with less than 3 years' service, and (iii) casual labour, remaining unconfirmed	111,520
Number of temporary staff under training or on probation	23,288
Number of staff whose posts were not likely to be required permanently	34,366
Number of workshop staff with less than 3 years' service	16,981

* The figures are cumulative from 1 June 1948.

122. Disposal of Surplus Staff.—In paragraph 124 of the last report, it was stated that Railway Administrations were asked to undertake retrenchment of staff in view of the difficult ways and means position of the Government, and to stop recruitment from outside as far as possible.

During the year under review, out of the staff declared surplus as a result of job analyses, about 11,500 were absorbed in vacancies mainly arising out of the implementation of the Adjudicator's Award and only about 500 were retrenched. The majority of those who were retrenched either refused alternate employment or had very short service on the railways.

123. Railways and Labour.—The relations between Railway Administrations and labour continued to be generally cordial during the year.

1. *All-India Railwaymen's Federation.*—The All-India Railwaymen's Federation held its Silver Jubilee Convention at Nagpur from 7 to 10 June 1950. The resolutions passed at the Convention related to a number

of subjects, such as, payment of certain allowances to staff, provision of educational facilities to children of staff, improvement of pass concessions, confirmation of temporary staff, housing of staff, nationalization of company-owned and company-managed railways, grant of increase in dearness allowance with reference to the recommendation made by the Central Pay Commission, and extension to employees of *ex*-State Railways of the terms and conditions of service as applicable to staff on the Indian Government Railways. The points raised in these resolutions were examined by the Railway Board and the All-India Railwaymen's Federation was advised of the results of the examination.

The Working Committee of the All-India Railwaymen's Federation held a meeting in Delhi, on 18 and 19 August 1950, at which the Committee passed resolutions relating to railway accidents, confirmation of staff, railway grainshops, and scales of pay of accounts staff, etc.

The General Council of the Railwaymen's Federation next met at Madras, on 22 and 23 October 1950, at which certain resolutions were passed reiterating the demands previously made by the Federation in the resolutions passed at the meetings referred to above, and also making certain demands relating to the running staff. In one of these resolutions, the All-India Railwaymen's Federation authorized the Working Committee to interview the Hon'ble Minister for Transport and Railways and to negotiate on the demands made by the Federation to obtain satisfaction for the railwaymen. The resolution also provided that if negotiations failed or if results of the negotiations were not satisfactory in the opinion of the said Working Committee, the Committee might fix a date for a strike ballot to be taken by all affiliated unions on the basis of the demands made by the Federation. These resolutions were examined by the Board and the All-India Railwaymen's Federation was advised of the results of the examination.

In response to a request made by Shri S. Guruswami, General Secretary, All-India Railwaymen's Federation, the Hon'ble Minister for Transport, Railways and States, met the members of the Working Committee of the All-India Railwaymen's Federation, on 9 and 10 March 1951, at New Delhi. On 9 March 1951, there were informal discussions between the Hon'ble Minister for Transport, Railways and States, and Shri J. P. Narayan and Shri S. Guruswami, and these were followed on 10 March 1951 by a formal meeting between the Hon'ble Minister and the Working Committee of the All-India Railwaymen's Federation. The All-India Railwaymen's Federation had proposed 47 subjects for discussion at that meeting of which 33 were covered by the recommendations already made by the Joint Advisory Committee for Railways. At the meeting held on 10 March 1951, between the Hon'ble Minister for Transport and Railways and the representatives of the All-India Railwaymen's Federation, only the following two points were discussed :—

(i) the demand of the Federation for an increase in the dearness allowance ; and

(ii) the demand of the Federation that the points on which the recommendations of the Joint Advisory Committee or the orders of the Government of India thereon were considered by the Federation to be unsatisfactory be referred for adjudication.

As regards the demand for increase in the dearness allowance, the Federation was informed that the Ministry of Railways were prepared to consider the supply of foodgrains at a reasonable price to all railway servants, abolishing the existing grainshop concessions which applied only to a small percentage of staff. But the Federation was not prepared to accept this proposal and made certain demands which would have meant the continuance of the existing grainshop concessions in the case of staff already in receipt thereof and the inclusion of the rest of the staff in another set of concessions, perpetuating thereby distinctions not merely as between railway servants and other Government servants, but also as between different sections of railway servants, which the Government could not accept.

NEW A-TYPE STAFF QUARTERS RECENTLY CONSTRUCTED IN LESS THAN TWO MONTHS AT TAMBARAM, NEAR MADRAS.

THE DAVANGERE RAILWAY STATION.

With regard to the demand for adjudication of issues covered by the Joint Advisory Committee's recommendations, referred to earlier, it was pointed out to the Federation that most of the recommendations made by the Joint Advisory Committee for Railways had been accepted, that there were but a few instances in which Government had found it necessary to reject or vary the recommendations of the Joint Advisory Committee, and that most of the recommendations had been implemented at a cost of nearly Rs. 2 crores a year to the Railways. The Government, therefore, were unable to accept the demand that the subjects dealt with by the Joint Advisory Committee be reopened for fresh adjudication at that stage.

The representatives of the All-India Railwaymen's Federation did not ask for the discussion on any of the other subjects suggested by them.

2. *Indian National Railway Workers' Federation.*—A meeting between the Hon'ble Minister for Transport and Railways and the representatives of the Indian National Railway Workers' Federation was held on 7 August 1950, at New Delhi, at which the following subjects were discussed :—

(1) Regrouping of Railways;
(2) setting up of Appellate Tribunals and Grievances Machinery on Railways;
(3) housing of staff ;
(4) increase in the rates of dearness allowance and house rent allowance;
(5) weightage for service to pre-1931 staff;
(6) association of labour representatives in the formulation of labour welfare schemes on Railways;
(7) revision of pass rules;
(8) unauthorized scales;
(9) circumstances and property tax ;
(10) fixation of post-1931 Goods Guards (Y Scale B Class) of B. B. & C. I. Railway, M. G. system;
(11) payment of jungle allowance to staff at Lumding (Assam Railway) ;
(12) change in the date of birth of literate staff;
(13) alleged non-co-operation with unions on a few Railways;
(14) conversion of daily-rated staff into monthly rated.

The Indian National Railway Workers' Federation held a meeting of the Executive Committee at Jamshedpur on 29 and 30 October 1950, at which resolutions on the following subjects were passed :—

(1) increase in the rates of dearness allowance;
(2) modification in the new Running Allowance Rules;
(3) fixation of daily-rated shed staff in the scales of pay recommended by the Central Pay Commission;
(4) appointment of Zonal Tribunals;
(5) classification of skilled staff according to their scales of pay;
(6) grant of complimentary passes after retirement to Class IV staff;
(7) early implementation of the recommendations of the Central Pay Commission relating to grant of educational assistance to sons and daughters of railway employees;
(8) cancellation of orders issued by the E. I. Railway Administration raising the rent of quarters by about 50 per cent;
(9) grant of house rent allowance with reference to the place of duty rather than with reference to place of residence of employees;

(10) for purposes of grant of retirement benefits, a portion of a year exceeding six months being reckoned as one year ;

(11) avoidance of direct recruitment in intermediate grades of Classes III and IV;

(12) withdrawal of the age limits prescribed by the Railway Board for the promotion of staff, such as Assistant Station Masters;

(13) grant of contracts for running tea stalls in railway stations and offices to retired railway employees;

(14) revision in the percentage of posts in Class I grade.

The points raised in these resolutions were examined by the Board and the Indian National Railway Workers' Federation was advised of the results of the examination.

124. Grainshops.—The railway grainshops continued to function satisfactorily during the year. Certain important decisions were taken during the year, as follows:—

(1) When the Indian State Railways came under the control of the Central Government with effect from 1 April 1950, it was decided that on railways where the existing grainshop concessions were different from those current on Government Railways, the staff should be brought on to the full cash dearness allowance payable under the Central Pay Commission rates, the grainshops being continued to sell cereals at controlled or non-concessional rates. The sale of all commodities from grainshops on such railways should be made on a non-concessional basis with effect from 1 April 1950 and within a period of three months the activities of those grainshops should be reduced so that only cereals are sold on and after 1 July 1950.

(2) It was decided that semolina (*suji*) and *maida* might be stocked in the railway grainshops in areas where these commodities were supplied by the civil authorities as a part of cereal ration and issued to the staff according to the scale prescribed by the civil ration authorities. As regards the selling rate, it was decided that in areas where these commodities formed an integral part of cereal ration and where the staff had no option to take wheat, rice, or any other commodity in lieu thereof, these commodities might be sold to the staff eligible for grainshop concessions at the concessional sale price of wheat, namely 2 annas 6 pies per seer and to others at controlled rates. In areas where these commodities formed an optional substitute for wheat, rice or any other cereal and the staff could obtain wheat, rice or any other cereal in lieu thereof, *maida* or semolina should be sold to the staff at the controlled rates.

Owing to shortage of foodgrains in the country, Government decided in January 1951 to reduce, temporarily, the overall cereal ration to 9 ozs. per day in all States in order to build up stocks. The cut was restored in the case of heavy manual workers with effect from 19 February 1951. The scale of issue of ration to railway employees through the railway grainshops was regulated accordingly.

The statistics given below indicate the principal activities of the grainshop organization during 1950-1 as compared with the previous year. In regard to certain items, the information given below relates to the month of March only, as indicated.

(i) No. of shops functioning—

	March 1950	**March 1951**
Static	314	**294**
Mobile	74	**64**
TOTAL	388	**358**

The decrease was due to closing down of the shops catering to less than 400 customers since it was considered wasteful to run a grainshop with an inadequate number of customers.

	March 1950	**March 1951**
(ii) Number of staff served at the shops—		
At concessional rates	273,000	**240,000**
At controlled rates	258,000	**283,000**
TOTAL .	531,000	**523,000**

The decrease in the number of staff served at concessional rates was due to opting out of the staff from grainshop concessions in favour of the entire dearness allowance in cash. The increase in the number of staff served at controlled rates was due to allowing the staff opted out as well as other railway staff to purchase cereals from the railway shops at controlled rates.

	1949-50 (In maunds)	**1950-1** (In maunds)
(iii) Principal articles sold during the year—		
(*a*) Cereals	6,908,000	**6,271,000**
(*b*) Pulses	983,000	**893,000**
(*c*) All cooking oils	441,000	**384,000**

The decrease in the sale of these commodities was mainly due to the reduction, referred to earlier, in the number of staff served at the railway grainshops.

	1949-50 Rs.	**1950-1** **Rs.**
(iv) Cost of purchases of all grainshop articles during the year . .	15,65,43,000	**16,66,49,000**

The increase was mainly to be ascribed to the increase in the average purchase price of grainshop commodities.

	1949-50 Rs.	**1950-1** **Rs.**
(v) Total amount realized on sales .	8,36,36,000	**8,29,37,000**

The decrease in the sale value was brought about by decrease in the quantity sold on account of smaller number of staff served.

	1949-50 Rs.	**1950-1** **Rs.**
(vi) Loss during the year—		
(*a*) Direct loss (on sales) . .	8,74,51,000	**7,85,23,000**
(*b*) Indirect loss (on staff, freight, etc.)	1,95,35,000	**1,63,35,000**

The decrease in direct and indirect loss was the result of the drop in the volume of sales, and in the number of shops.

	March 1950 Rs. as.	**March 1951** **Rs. as.**
(vii) Average cost of purchases per employee	26 7	**33 15**

The increase was mainly due to the increase in the average purchase price.

	March 1950 Rs. as.	**March 1951** **Rs. as.**
(viii) Expenditure incurred by Railways per employee—		
(*a*) On sales	25 6	**27 11**
(*b*) On all overheads	2 14	**2 12**

The increase in the average purchase price during the year has resulted in an increase in the expenditure per employee. The slight decrease in overheads may be observed, and this was due to the reduction in the number of grainshops.

	March 1950	March 1951
	Rs. as.	**Rs. as.**
(ix) Average relief per employee--		
Zone X	22 15	**24 7**
Zone A	23 13	**26 4**
Zone B	25 4	**26 9**
Zone C	27 9	**28 6**

The increases in the figures of relief on all the zones during March 1951 were due to increase in the market prices of commodities.

125. **Canteens.**—The number of canteens on railways which served light refreshments and in some cases cooked meals to workers decreased from 69 to 66 during the year. The number of staff who patronized these canteens also decreased from an average of 63,000 per day to an average of 61,000 per day. A few canteens had to be closed down as they were not self-supporting.

126. **Dearness Allowance.**—The scales of dearness allowance admissible to railway staff, referred to in paragraph 123 of the report for the year 1948-9, continued unchanged during 1950-1.

127. **Co-operative Stores.**—The assistance which should be given by Railway Administrations to the Co-operative Stores set up by railway workers is given in paragraph 129 of the last report. During the year certain Co-operative Stores were allowed the facility of recovering their dues through the salary bills of the staff concerned.

128. **Railway Service Commissions.**—During the year under review the Central Railway Service Commission recruited 8,826 candidates for appointment to Class III posts on Indian Railways. For this purpose the Commission held Selection Boards at the Headquarters of the various Railways and also, as found necessary, at other important stations on Railways, such as, Lucknow, Ajmer, Agra, Gauhati and Nagpur. The major portion of the work of equating the posts and grades of non-gazetted staff *ex*-Indian State Railways taken over by Government from 1 April 1950 with those on the prescribed scales of pay with which the Commission had been entrusted, was also completed by them during this year.

129. **Anti-corruption measures on Railways.**—Measures to check bribery and corruption continued to receive the active attention of Railway Administrations during the year. With the departmental anti-corruption organizations having gained experience in this direction and the Special Police Establishment extending its activities to cover cases within the territory of Part B and C States, the drive to combat this evil has become more intensive. In the last report it was stated that out of the nine former Indian Government Railways, departmental anti-corruption organizations were functioning on seven. On the Bombay, Baroda & Central India Railway, where the anti-corruption work had, hitherto, been carried on by their Complaints Section, an organization exclusively for this work started functioning on 13 January 1951, with a skeleton staff, but on the Great Indian Peninsula Railway, since the results achieved by this organization did not justify its continuance separately, it was wound up with effect from 13 March 1951. The need for economy all round, had its effects here also and consequently the organization on the Bengal Nagpur Railway had to be reduced to practically half its former size. Reports received from Railway Administrations show that there has been a considerable chastening and restraining influence over all classes of staff consequent on the departmental organizations starting to function.

With the tightening up of disciplinary rules and with the close liaison maintained between the Railway Administrations and the Special Police Establishment, it had been possible to achieve a certain amount of success in tackling the problem of bribery and corruption.

During the period under review, the Special Police Establishment also continued their work vigorously. Between 1 January 1950 and 31 December 1950, the Special Police Establishment took up 261 fresh railway cases for investigation and in all finalized 295 cases. Of this 110 were sent up for trial resulting in the conviction of 55 railway employees including seven gazetted officers. Six others were also convicted. This brings the total number of cases so far taken up by the Special Police Establishment to 1,391 resulting in the conviction of 391 persons.

130. Labour legislation.—Apart from the Industrial Disputes (Appellate Tribunal) Act 1950, enacted in May 1950, there was no other important legislation concerning labour during the year. The Industrial Disputes (Appellate Tribunal) Act, 1950, provides for the establishment of a Labour Appellate Tribunal to which appeals lie from the awards and decisions of industrial tribunals, courts, wages boards, and other statutory bodies set up under Central and State enactments for the adjudication of industrial disputes. This Act further effected certain changes in the existing law, Central as well as States, relating to industrial disputes.

131. Staff Councils.—It was stated in the last report that the constitution of works committees as provided under the Industrial Disputes Act with representatives of employers and workmen in industrial establishments and the question whether staff councils and such other bodies functioning on Railways might be allowed to continue in their existing form were under consideration and that a reference was made in that connection to the Joint Advisory Committee for Railways for their advice. The Joint Advisory Committee informed Government that the expression of the opinion of this Committee could not be obtained on this issue, as the majority of the representatives of labour in that Committee declined to discuss this question on the grounds that only a limited aspect of the Labour Relations Bill, 1950, relating to the formation of works committees in industrial establishments had been referred to that Committee for opinion and that they were bound by the fiat of the All-India Railwaymen's Federation against the acceptance of works committees in that form. The question remained under consideration during the year under review.

132. Provision of Quarters for Railway Staff.—During the year under review, 6,365 quarters were constructed on all Indian Railways.

The number of quarters constructed on major railways is shown below :—

NUMBER AND TYPES OF QUARTERS BUILT ON MAJOR RAILWAYS

Serial No.	Railway	'A' type	'B' type	'C' type	'D' type	Total	Remarks
1	Assam . .	906	178	10	7	1,101	
2	B. B. & C. I. .	607*	10	..	..	617	*Include 237 semi 'A' type quarters.
3	B. N. . .	60	33†	..	..	93	†Include eight blocks of four units each double storeyed at Santragachi.
4	E. I. . .	726	140	9	4	879	In addition four 'E' type quarters at Moradabad and three 'J' type and one 'H' type quarters at Howrah were built during 1950-1.
5	E. P. . .	560	10	..	..	570	In addition 334 units (Temporary) were provided in replacement of unserviceable tents.
6	G. I. P. . .	571	..	..	..	571	
7	M. & S. M. .	381	66	..	..	447	
8	O. T. . .	1,121	..	..	..	1,121	
9	S. I. . .	47	..	..	..	47	
	Total .	4,979	437	19	11	5,446	

In addition to these quarters 1,887 'A' type, 410 'B' type, 244 'C' type and 63 'D' type quarters were constructed during the year at Chittaranjan for the staff of the Chittaranjan Locomotive Works, making the total number of quarters constructed 8,969.

133. Progress in implementation of the Adjudicator's Award.—Practically all the additional Class III and Class IV staff required for implementing the Adjudicator's Award have been fitted in working posts and duty rosters giving effect to the reduction in the hours of work. Further, liberalized periods of rest have been introduced. Pending the issue of final orders on the question of leave reserves as recommended by the Adjudicator, the Railways have adopted as leave reserves provisionally up to 10 per cent and have provided necessary additional staff on this basis. The Railway Servants (Hours of Employment) Rules, 1931, have been revised, embodying therein the recommendations of the Adjudicator and fresh rules have issued as "The Railway Servants (Hours of Employment) Rules, 1951". The question of amending Chapter VI-A of the Indian Railways Act, 1890, in order to give statutory force to the Adjudicator's recommendations accepted by Government was under consideration.

Consequent on the taking over of the *ex*-Indian State Railways by the Central Government from 1 April 1950, it was decided to extend to the staff of those Railways the benefits of the Hours of Employment Regulations as modified by the Adjudicator's Award as an *exgratia* measure. The preliminary work involved in extending the benefits has been progressing, and the Nizam's State Railway, on which this work has been completed, was authorized to proceed with the extension of the benefits.

The absorption of displaced persons from Pakistan for whom 15,000 posts were reserved on the former Indian Government Railways was completed before it was decided that such reservation was *ultra vires* of the Constitution. The absorption of the Indian nationals returning from Burma on grounds of alien nationality has been progressing.

134. Progress in the implementation of the Central Pay Commission's recommendations.—By the end of the year 1949-50, the implementation of the recommendations of the Central Pay Commission on the Railways had been practically completed except in regard to the removal of the alleged anomalies in the application of the recommendations of the Pay Commission. As already reported, a Joint Advisory Committee, consisting of four labour representatives, four representatives of the Railway Board and an independent Chairman nominated by the Government, was set up in May 1949, to look into, and recommend remedies for, these alleged anomalies. The Committee's deliberations were concluded in December 1950. The Committee considered over 3,800 representations submitted to them by unions and associations of railway employees as well as by individual railway employees. The Committee framed 1,012 issues arising from all the representations and disposed of them making suitable recommendations for the consideration of the Government.

By the end of March 1951, orders of Government had been issued to Railways on most of the recommendations of the Committee. The more important of these, affecting large bodies of staff, covered the following subjects:—

(*a*) distribution of the posts of head clerks over the various grades;
(*b*) scale of pay applicable to accounts clerks, Class I, and the distribution of the posts of accounts clerks over Classes I and II;
(*c*) distribution of the posts of higher grade station masters;
(*d*) scales of pay and rates of running allowance to running staff;
(*e*) distribution of the posts of commercial clerks;
(*f*) distribution of the posts of ticket examining and ticket checking staff;
(*g*) scales of pay applicable to staff of the Watch and Ward Department;
(*h*) scales of pay applicable to staff of the Cash and Pay Department;
(*i*) distribution of posts of Section Controllers; and
(*j*) prescribed scales of pay for Labour Welfare Advisers and Inspectors.

The acceptance of the Committee's recommendations has benefited a large number of employees and the monetary value of the benefit will be approximately two crores of rupees per annum.

In April 1950, the Government announced that with a view to implementing the decision to grant the Central Pay Commission's scales of pay to the employees of the former Indian States Railways, a Committee would be set up on each Railway to determine the equivalent grade in the Central Pay Commission's scales into which the staff would be fitted. A Committee consisting of the Chairman of the Central Railway Service Commission and four officers of the *ex*-Bombay, Baroda and Central India Railway had already been appointed for examining the question of equation of non-gazetted posts on the *ex*-Gaekwar Baroda State Railway to Central Pay Commission scales of pay. The work of equation in respect of the other *ex*-States Railways was entrusted to the Central Railway Service Commission and they were asked to co-opt, while examining the case of staff on each railway, such officers of the Indian (Government) Railways as they considered necessary. The Railwaymen's Unions were also invited to forward to the Committee any representations they wished to make on the question of classification of grades.

By the end of March 1951, recommendations had been received and considered in regard to the equation of non-gazetted staff of the *ex*-Gaekwar Baroda State Railway. Of the other *ex*-States Railways, recommendations had been received and were under consideration of the Government in respect of all excepting one.

In making recommendations regarding the equation of the non-gazetted posts on *ex*-States Railways to the Central Pay Commission's scales of pay, the Central Railway Service Commission gave due consideration to the decisions of the Government on the recommendations of the Joint Advisory Committee.

135. Activities of the Medical Department.—Consideration of the general question of the policy to be adopted in regard to medical arrangements on Railways in future was still in progress during the year and the Board decided, to start with, to make arrangements for the reservation of a total number of 250 beds in tuberculosis hospitals and sanatoria in the country, for the admission and indoor treatment of tubercular cases among Railway staff, at the cost of Railway revenues. Out of this reservation, families of railway servants are also to be given beds when not required for railway servants.

The activities of the Medical Department during the year showed continued progress. On many of the Railways the number of beds was increased, the total addition to beds being over a hundred. Additional equipment such as electro-cardiogram apparatus infra red lamp and ultra violet lamps was installed in some of the Railway hospitals.

As a result of the adoption of prophylactic measures such as regular distribution of Paludrine and Mepacrine tablets to the staff and their families and anti-malarial measures such as spraying of quarters with D. D. T., oiling of ponds, draining of stagnant waters and removal of rank vegetation, the incidence of malaria was on the decrease on many railways. The incidence of major infectious diseases such as cholera, plague and small-pox was also markedly low during the year.

A large number of railway employees availed themselves of the concessions granted under the revised medical attendance rules and were reimbursed the medical charges in terms of the rules.

During the year two teams consisting of a Doctor and Health Visitor/Sanitory Inspector were trained at Nagpur in B. C. G. vaccination, and the vaccination work was started on one Railway, with a very encouraging response from the staff.

On almost all Railways the Health and Maternity Service Centres continued to be well maintained.

A comparative statistical statement summarizing the activities of the Medical Department and showing up to date equipment available on the Indian Railways for the years 1949-50 and 1950-1 is given on the next page.

STATISTICS OF MEDICAL AND HEALTH SERVICES ON RAILWAYS FOR THE YEARS 1949-50 AND 1950-1

	Assam.		B. N.		B. B. & C. I.		E. I.		E. P.		G. I. P.		M. & S. M.		O. T.		S. I.	
	1949-50.	1950-1.	1949-50.	1950-1.	1949-50.	1950-1.	1949-50.	1950-1.	1949-50.	1950-1.	1949-50.	1950-1	1949-50.	1950-1.	1949-50.	1950-1.	1949-50.	1950-1.
1. Number of railway staff as on 31 March.	35,500	39,000	101,783	107,613	89,543	89,543	210,404	219,366	46,926	49,499	144,444	145,787	71,449	67,857	50,810	53,544	57,257	61,631
2. Cost of medical services Rs.	10,54,000	12,00,000	14,41,275	15,32.911	11,06,401	11,58.547	25,81,000	27,80,000	6,93,374	7,24,155	16,38,320	18,24,499	8,50,880	9,13,230	7,73,000	7,96,000	8,09,672	9,05,182
3. Cost of medical service per head of staff per annum. Rs.	39·69	30·76	14·16	14·24	12·36	12·94	12·27	12·69	14·78	14·6	11·34	12·51	11·91	13·46	15·21	14·9	14·14	14·69
4. Cost of health services Rs.	1,34,500	14,00,000	28,49,238	37,87,948	10,61,951	5,68,855	53,70.000	39,80,000	10,75,341	11,72,328	21,51,073	22,82,239	4,96,995	5,11,731	8,54,000	9,29.000	4,12,088	4,55,551
5. Cost of health services per head of staff per annum. Rs.	37·88	35·89	28·00	35·20	11·86	14·56	25·52	18·13	22·92	23·7	14·89	15·65	6·96	7·54	16·81	17·4	7·20	7·39
6. Number of—																		
(i) Hospitals	6	8	10	10	53	53	13	13	9	9	8	8	5	5	3	3	7	7
(ii) Dispensaries	33	42	52	52			73	73	12	14	35	39	36	36	18	20	24	24
(iii) Beds	152	204	244	244	228	227	640	658	167	202	268	284	217	224	151	185	207	207
7. Equipment—																		
(a) Diagnostic Apparatus—																		
(i) X-Ray	2	2	4	6	5	9	11	11	2	2	6	6	3	3	3	3	2	2
(ii) Electro-Cardiogram	—	—	—	—	—	3	—	—	1	1	—	—	—	—	1	1	—	—
(b) Electro Med. and Physio Therapy—																		
(i) Diathermy	1	1	1	1	2	5	10	10	—	1	2	2	1	1	—	—	1	1
(ii) Shortwave	—	—	—	—	1				1	1	3	3	—	—	—	1	—	—
(iii) Infra Red	3	3	4	4	5	8	10	10	1	2	1	2	—	—	1	1	1	1
(iv) Pentostal	—	—	—	—	—	—	2	2	1	1	1	1	—	—	1	1	1	1
(v) Ultra-Violet	2	2	1	1	5	10	13	13		2	7	7	1	1	3	3	1	1
(c) Massaging and Rebalili Apparatus.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

136. Railway Schools.—The position of schools on Indian Railways remained the same during the year under review. In view of the fact that provision of educational facilities is the responsibility of the State Governments, efforts continued to be made to persuade the authorities concerned to take over the Railway Schools. There has, however, been little progress in this direction as few of the State Governments are prepared to take over the financial responsibility. The future educational policy to be pursued by the Railways has also been under consideration. Certain proposals for expanding the present facilities so as to provide for children of railway staff posted in remote localities, etc., where normal educational facilities are not available, are under examination.

137. Compulsory and Voluntary Savings Schemes.—In addition to voluntary contributions to Provident Fund, the scheme of Compulsory Savings applicable to the staff in receipt of pay exceeding Rs. 250 per month and the Savings Provident Fund (Railways) applicable to staff drawing Rs. 250 and below continued to be in force during the year. The number of staff contributing under these schemes and the approximate amount collected this year were :—

Scheme	No. of staff	Amount.
(1) Compulsory Savings	13,000	Rs. 17,88,000
(2) Savings Provident Fund (Railways) .	776,000	Rs. 97,53,000

138. State Railway Provident Fund (Temporary Provisions) Act, 1950.—Under Section 5 of the Provident Fund Act, 1925, the Provident Fund accumulations of a subscriber are payable in the event of his death to the person or persons nominated by him to the exclusion of all others. As the nomination papers of a number of India-opting employees of the old North Western and Bengal Assam Railways were not received from Pakistan, difficulty was experienced in complying with this provision, and, in order to overcome the difficulty, the State Railway Provident Fund (Temporary Provisions) Act, 1950, was passed in December 1950, which authorized Railway Administrations to make payments in such cases to the dependents of the deceased employees. The Act remains in force till 31 December 1952, by which date it is hoped to settle the provident fund accounts of all the subscribers concerned.

CHAPTER VIII

AMENITIES FOR PASSENGERS

139. General.—Efforts towards making rail travel more comfortable and safe continued to receive the close attention of Railway Administrations. The amenity works are now being worked as definite programmes. These included for the year provision of model carriages and fittings, improvement of train lighting, opening of new stations and halts, provision of waiting rooms and halls, opening of new booking offices and out-agencies, electrification of stations, raising of platforms, catering arrangements, and better sanitation of station premises and passenger carriages. During the year, 6,521 fans were fitted in Third class and 3,807 in Inter class coaches. Raising of platforms was carried out at 97 stations during the year. Some of the important improvements on individual railways are enumerated below.

140. Improved lower class coaches.—Third class all-steel coaches constructed by the Hindustan Aircraft Limited, Bangalore, to an improved interim design, numbering 63, were put into service during the year. In addition, improved amenities, such as fans, were provided in the approved 1939 standard design of coaches which were built in railway workshops. Third class coaches of this type, totalling 210, were put into service during the year.

141. Booking Offices and out-agencies.—Additional booking facilities for the greater convenience of the travelling public were provided at different stations as indicated below.

Bengal Nagpur Railway.—A separate ticket window has been provided at Sakhigopal station for passengers travelling 300 miles and over.

Bombay, Baroda and Central India Railway.—A city booking office was opened at Kanauj with effect from 1 August 1950. An additional booking window was opened for upper class passengers at Achnera and Ujjain. A new booking office with two additional booking windows, one intended for the use of ladies and one for fairs traffic was provided at Mathura Cantonment. Continuous booking of passengers throughout 24 hours was introduced at Indore. A new booking office on the east side of Goregaon and a season ticket office at Church Gate were provided during the year. The construction of new booking offices at Dadar, Surat, Baroda and Maninagar and a modern enquiry and reservation office at Church Gate were in progress.

Eastern Punjab Railway.—The out-agencies and city booking agencies have continued to be well patronized by the public. Two more out-agencies were opened, one at Theog *viâ* Simla and the other at Udhampur *viâ* Pathankot.

Great Indian Peninsula Railway.—An additional booking window has been opened at Ambernath for the issue of season tickets from 9 July 1950. A joint (Great Indian Peninsula and Bengal Nagpur Railways) city booking office, worked by the Great Indian Peninsula Railway, was opened with effect from 22 May 1950 at Nagpur for issue of Third class passenger tickets in local and through booking.

Jodhpur Railway.—Bhagat-ki-kothi station was opened for passengers and luggage in local booking from 1 November 1950. Temporary stations at Parbatsar Cattle Fair station and Tilwara Fair station were opened during the period of fairs for facility of booking passengers and live-stock. A city booking office was opened at Mandor Garden for the facility of passengers during Nagapanchami and Virpuri fairs.

Oudh Tirhut Railway.—Temporary booking offices, numbering in all 17, were opened at various stations. Additional booking windows were provided at Allahabad City, Ballia, Aunrihat Junction, and Azamgarh stations. Two stations, Jhilahi and Baruachak in the Gonda District, were opened for booking of passengers and luggage in local booking only.

South Indian Railway.—A new town booking office was opened at Cochin and 10 out-agencies were opened during the year.

142. Waiting rooms and waiting halls.—Besides effecting improvements to the existing station accommodation for passengers at a number of stations, a number of waiting rooms and waiting halls were constructed during the year.

Assam Railway.—Provision of First and Second class waiting rooms at Haibargaon, Bailakandi, Raiganj and Fakiragram and improvements to waiting rooms at Manipur Road were in progress.

Bengal Nagpur Railway.—A combined upper class waiting room has been provided at Rayaghada station. Waiting accommodation for Third class passengers has been provided at 22 stations and waiting halls have been extended at 47 stations. 673 reinforced concrete benches have been provided at different stations during the year. Bathing places have been provided on platforms at Dongargarh, Khargpur, Purulia, Bhaga, Anuppur, Ranchi, Sini, Khurda Road, Sahdol, Bankura, Parlakimedi and Tumsar Road stations.

Bombay, Baroda and Central India Railway.—New waiting halls with modern facilities were provided at Bhayandar, Kosamba, Anand, Maninagar, Nadiad, Navapur, Mathura Cantonment, Kasganj and Abu Road and works at Baroda, Surat, Mehsana, Indore, Mandsaur, Sojat Road and Marwar Junction were in progress.

The existing Third class waiting halls at Umbergaon Road, Nagda, Bhawani-Mandi, Shri Mahabirji, Bayana, Bharatpur, Mathura Cantonment were extended and *pucca* flooring was provided at Utran, Samlaya, Piplod and Shinghali. The number of stations where Third class waiting halls have been provided is 75 per cent.

New upper class waiting rooms with modern facilities such as bath rooms, etc., were provided at Maninagar and Pratapnagar and work on those at Surat and Baroda was in progress.

East Indian Railway.—Upper class waiting room at Chittaranjan and Goshainganj, combined First and Second class waiting room at Taregna were provided. Third class waiting rooms and halls were provided at a number of stations and improvements were effected at many stations. Provision of additional benches in waiting rooms and on the platforms were made at a very large number of stations.

Eastern Punjab Railway.—On 31 March 1951, waiting rooms or halls were provided for Third class passengers at 94 per cent of the stations. 347 benches were provided in waiting halls and at platforms at various stations during the year.

Great Indian Peninsula Railway.—Waiting rooms for Inter class passengers have been provided at Bhusaval, Poona, Manmad, Jhansi, Bhopal, Harpalpur, Wadi, Dhond, Deolali and Khandwa stations.

Jodhpur Railway.—Upper class waiting rooms were provided at Gotan and Khajwana stations. Waiting halls were also provided at Marwar Bagra, Balwara, Marwar Kori and Hanwant stations. Extensions to Third class waiting halls at Marwar Pali and Didwana were carried out.

Oudh Tirhut Railway.—At 17 stations, additional waiting rooms or waiting halls were constructed. Improved latrines and sanitary arrangements were installed at eight stations.

South Indian Railway.—Improvements were made to the upper class waiting rooms at 21 stations. A bath room was added to the upper class waiting room at Chidambaram, and shower baths were installed in the waiting rooms at Maniyachi, Virudhunagar, Ambasamudram and Tinnevelly Junction. Indian style lavatories were provided in each of the upper class waiting rooms at Ootacamund. For upper class passengers a waiting room was provided at Trichi Town. Mosaic flooring and dado were provided in the women's waiting hall at Madras Egmore. Separate waiting room accommodation for women was provided at Kuthur Station. For Third class passengers at Trichi Town and Mandapam, additional waiting halls have been provided.

143. **Additional platforms and sheds.**—The work on improvements to, or extensions of, existing platforms, and provision of covering over the platforms was continued and fair progress was recorded during the year.

Assam Railway.—Raising and surfacing of platforms at Pandu, Rangiya, Chaparmukh, Simaluguri and Mariani stations were completed. Work was in progress at Gauhati, Manipur Road, Haibargaon, Karimganj, Badarpur and Barpeta Road. The platform at Dibrugarh was surfaced. The covering of the passenger platform at Katihar and provision of a covered shed adjacent to the platform at Katakhal were in progress.

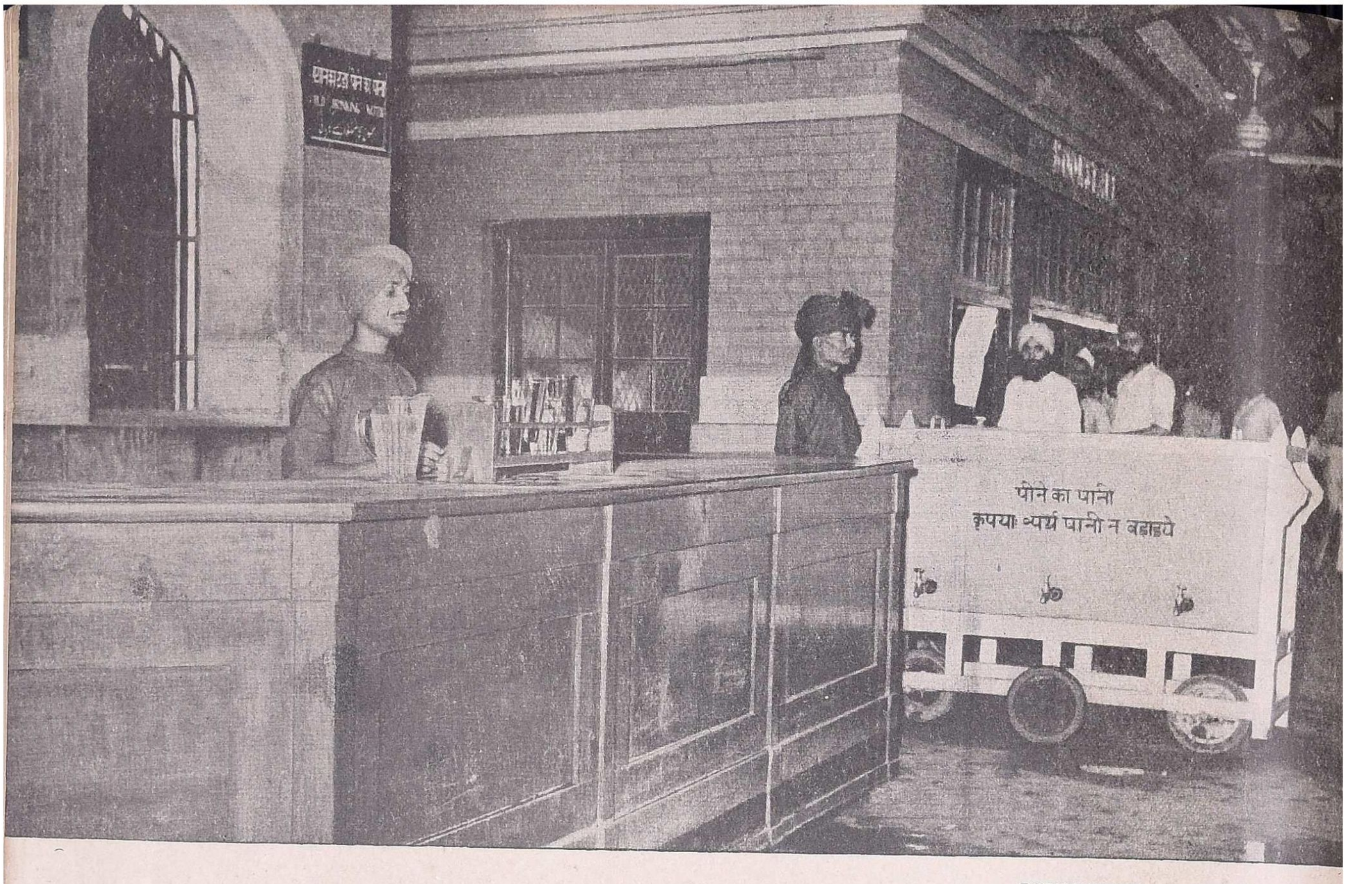
Bengal Nagpur Railway.—Improvized platform covers were provided at 72 stations. The most important among these stations are Gondia, Cuttack, Palasa, Jharsuguda, Purulia, Dongargarh, Burnpore, Naupada, Machada, Drug and Ranchi. Platforms at 39 stations were improved by tarred surfacing and these included Burnpore, Chhindwara, Bhubaneswar, Khargpur, Bhaga, Seoni, Bhatapara and Bilaspur. Rail level platforms were raised to 1′-6″ above rail level at Mahasamund, Nergundi, Pendurti, Nirakarpur, Rambha, Ghatsila and Gangajhiri stations. The work on extension of platforms at Adra, Rourkela, Himgir, Chatrapur Court, Bhandara Road, Kachewani Kotarlia, Pendurti, Narayangar, Contai Road, Jaleswar, Bakhrabad and Kanhan was completed.

Bikaner State Railway.—The construction of a raised island platform at Loharu was completed and the work of extending the existing raised plaform at Bikaner was carried out.

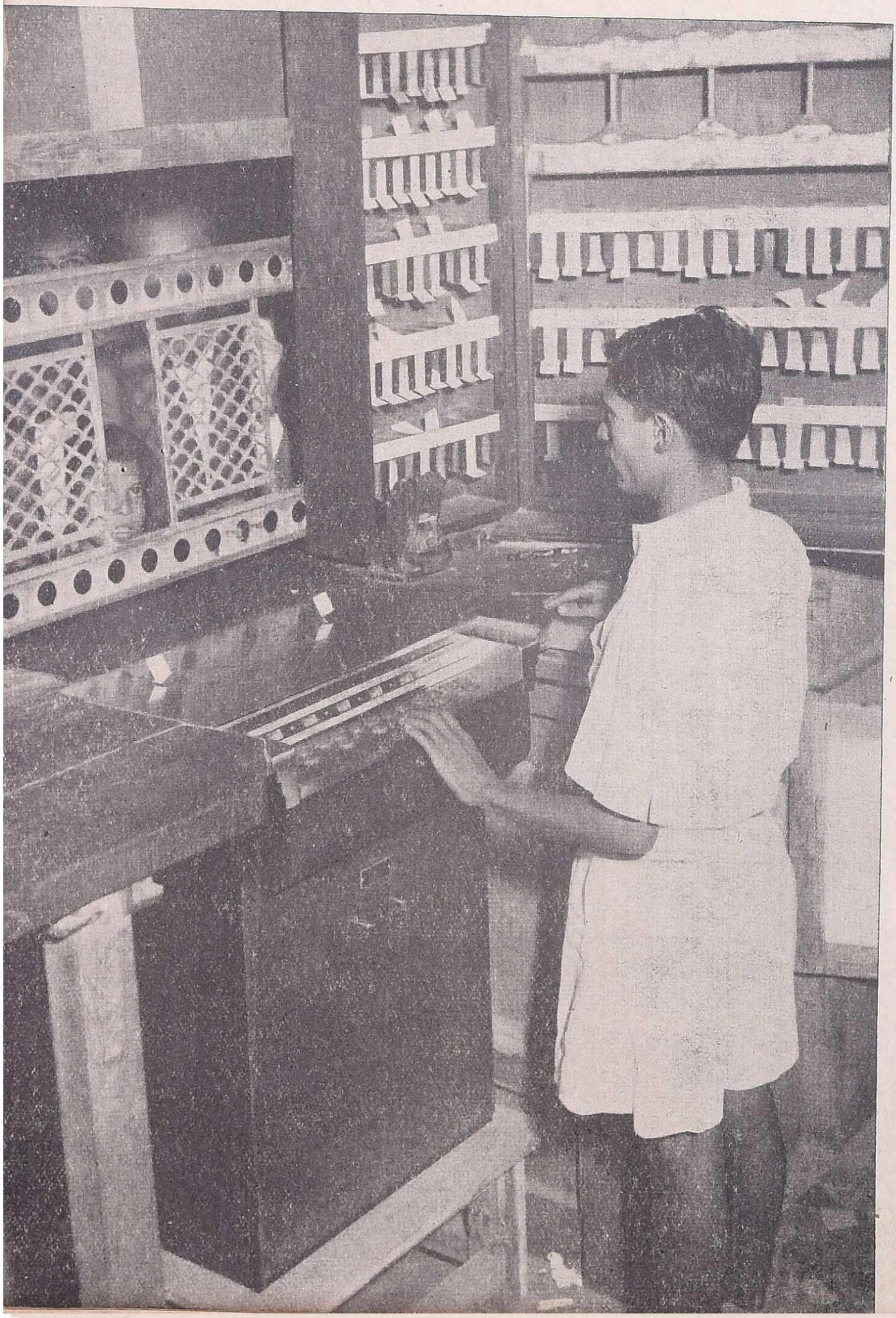
Bombay, Baroda and Central India Railway.—The work of extending and raising platforms at Navapur, Fatehsinghpura, Barejadi, Boriavi, Surat, Ankleswar, Kosamba, Rewari, Bandikui, Mehsana, Mandsaur, Kishangarh, Indore, Farrukabad and Abu Road was carried out. Roofing was provided over platforms at Dadar, Surat, Baroda, Kosamba, Nadiad, Gothaj, Mehmedabad, Kanij and Bandikui.

East Indian Railway.—Raised platforms were provided at twelve stations, namely, Tilhar, Phulwari Sharif, Salar, Dainhat, Masagram, Gurup, Malwan, Sarsaul, Manauri, Bindki Road and Bharwari. Low level platforms were provided at nine stations, namely, Japla, Garhwa Road, Palmerganj Sheikhpura, Warisaliganj, Nawadah, Chakand, Bela, Makhdumpur-Gya and Rafiganj stations. Platforms at Burdwan, Panagar, Durgapur, Sainthia, Kanth, Bela, Gahmar, Behea, Jamooee, Patna City, Dehri-on-Sone, Sasaram and Palmerganj were extended. Platform surface at 47 stations was improved by cement concreting. The up island platform at Barharwa was extended. Coverings over platforms were provided at Chittaranjan, Ambika Kalna, Dainhat, Chandernagore, Dattapukur, Sonarpur and Krishnagar City. Passenger sheds were under erection at other stations including Burdwan, Allahabad, Tundla, Hathras, Etawah and Aligarh.

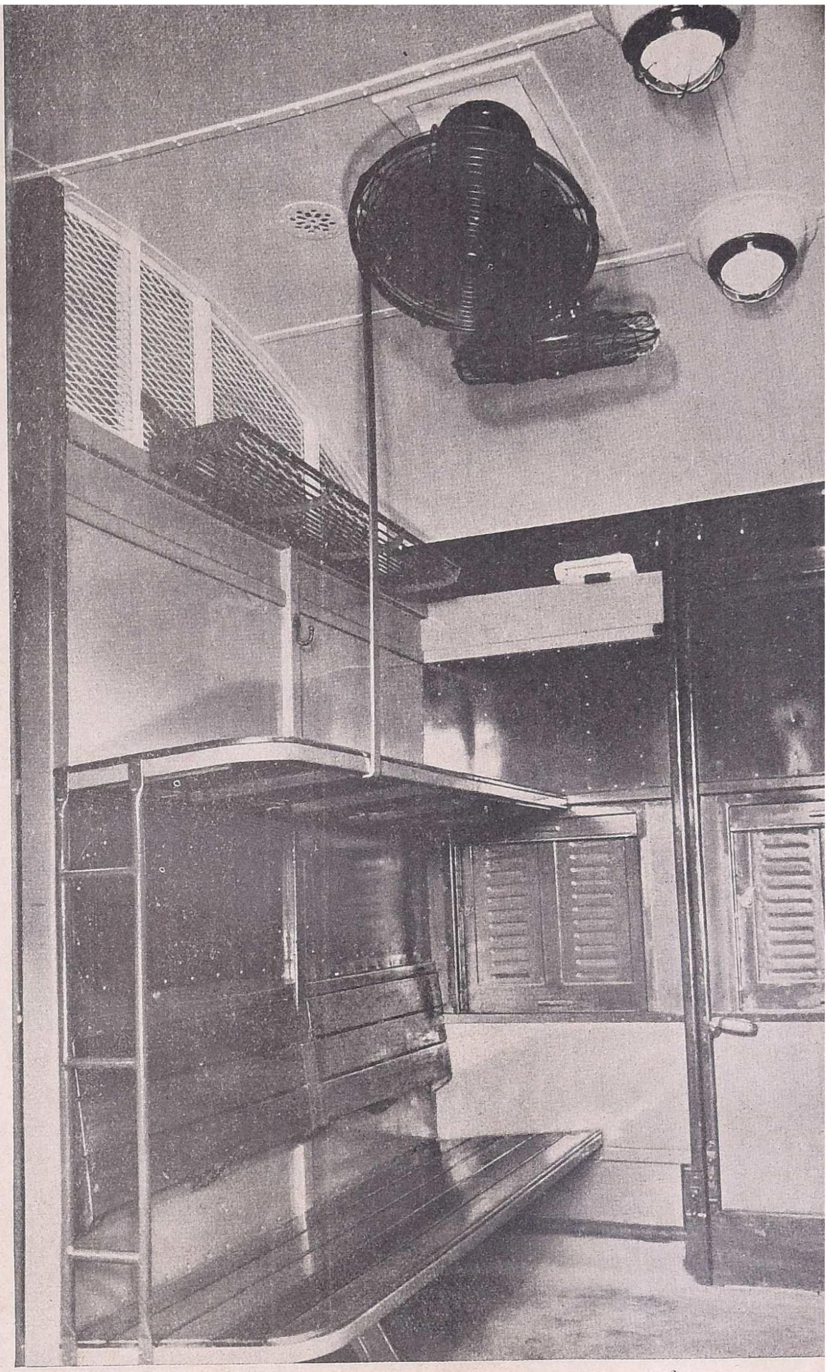
Eastern Punjab Railway.—A shelter was provided over the passenger platform at Bhatinda. Low level platforms were provided at Subzimandi, Garh Shanker and Nawashahr Doaba. Platforms at Ghaziabad, Delhi Main,



LUCKNOW STATION—WATER COOLER FOR SUPPLYING DRINKING WATER TO PASSENGERS.

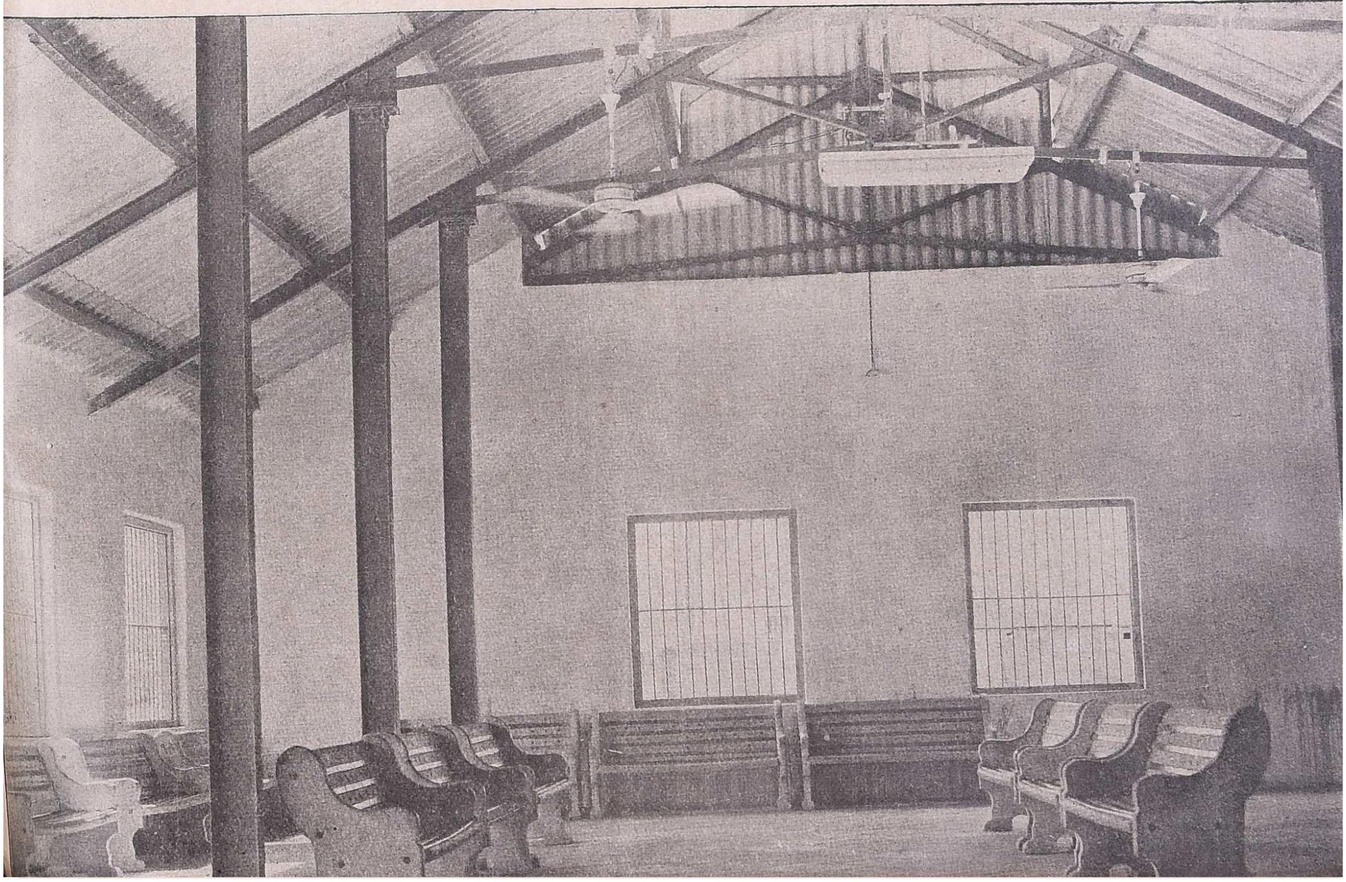


SELF-PRINTING TICKET-ISSUING MACHINE FOR QUICK ISSUE OF SUBURBAN TICKETS ON THE G. I. P. RAILWAY.



MODEL 407 ALL-STEEL THIRD CLASS COACH BUILT BY HINDUSTAN AIRCRAFT LTD., SHOWING INTERIOR ARRANGEMENT OF SEATS, BUNK, PARCEL RACK, FANS AND LIGHTS.

IMPROVED PASSENGER WAITING HALL, GULBARGA, N. S. RAILWAY. COMFORTABLE BENCHES, ELECTRIC FANS AND GOOD LIGHTING ARE PROVIDED.



Kurukshetra, Panipat, Karnal, Sonepat, Ambala Cantonment, Rohtak, Hoshiarpur, Jullundur City, Saharanpur and Jagadhri were surfaced with cement concrete.

Great Indian Peninsula Railway.—Provision of covering over platforms and the work of raising, extending and surfacing of platforms were carried out at 34 stations, important stations among which being Burhanpur, Manikpur, Banda and Belapur. Similar improvements were in progress at 20 more stations including Masjid, Chanda, Jalgaon, Gadarwada, Badnera, Gulbarga, Dadar, Nagpur, Hoshangabad and Bina.

Madras and Southern Mahratta Railway.—The extension of platforms at Pithapuram, Tuni, Phirangipuram, Palakol, Basin Bridge and Dwarapudi was completed. An additional platform was provided at Tiruttani. Work on lengthening and raising platforms at Gudgeri, Saunshi, Kundgol, Savanur, Chalgeri and Byadgi was taken in hand. Twenty-four platforms at different stations were concreted and the work on 48 other platforms was in hand. Roofing was provided over the island platform at Renigunta and platform shelters 100′ × 19′ each were provided at 13 stations. At Dronachellam, the platform for Nizam's State Railway trains was being extended and also provided with covering.

Nizam's State Railway.—Progress was recorded in the work of providing covers over platforms at 11 stations, including Aurangabad, Kazipet, Kurnool Town; extension to roofing over the metre gauge main platform at Secunderabad; lengthening of platforms at five stations; and raising of platforms at four other stations. Surfacing of platforms with Shahabad stones, asphalt or cement concrete at 26 stations including Dornakal, Kazipet, Warangal and Vikarabad, on the broad gauge, and Nanded, Nizamabad, Purna, Aurangabad on the metre gauge, was undertaken. Of these, work at 13 stations was completed and that at the remaining 13 stations was in progress.

Oudh Tirhut Railway.—Covered sheds over passenger platforms were completed over the main platforms at Kathgodam, Gorakhpur and Muzaffarpur and the work on the island platform at Muzaffarpur, Gorakhpur, Samastipur and Darbhanga and on the main and island platforms at Chupra was in progress.

South Indian Railway.—Platforms were provided at Kottaikadu, Chullimadai and Ettimadai for opening the stations for passenger traffic. The existing platforms at Buddireddipatti, Dasampatti, Ottapalam and all stations in the Virudhunagar-Tenkasi Chord were extended. The level of platform at Pappiniseri was raised to 1′-6″ above rail level. The platforms at twelve stations were cement-concreted.

144. Electrification of stations.—Electric lighting of passenger platforms, station buildings, waiting sheds, approach roads, circulating areas, etc., made good progress during 1950-1. In all 100 stations were electrified during the year on Indian Government Railways as detailed below :—

Assam	4
Bengal Nagpur	12
East Indian	7
Great Indian Peninsula	10
Jodhpur	2
Madras and Southern Mahratta	12
Nizam's State	5
Oudh Tirhut	9*
Saurashtra	8
South Indian	31
	100

* This includes 5 stations awaiting connection with town electric supply.

In addition, at several stations which were already electrified, lighting was improved and ceiling fans were provided in Third class waiting halls and station platforms. On the East Indian, Madras and Southern Mahratta and Eastern Punjab Railways, electric water coolers were provided at some important stations.

145. Catering arrangements.—During the year the question of the ways and means of improving the standard of the western style of catering in railway restaurants and dining cars received the special attention of the Railway Board and a Committee was appointed to examine and specify the standards to be maintained in restaurants, to recommend suitable tariff of charges for the various meals, etc., served in restaurants and dining cars and also to recommend an organizational machinery to ensure compliance with the recommendations to be made. This Committee submitted their report about the end of the year and the Board have had their recommendations as well as the question of the redesigning of the dining and buffet cars under examination.

Steps were also taken to improve the catering services in refreshment rooms as well as the quality of food supplied by vendors generally.

146. Supply of drinking water.—Arrangements to ensure adequate supply of drinking water to passengers were fully maintained during the year under review. The scheme which provided for the stationing of some twenty watermen at carefully selected stations on all important routes to supply drinking water to passengers and tried with success during the previous summer was continued in 1950-1. As an additional passenger amenity, a number of railways introduced the system of supply of electrically cooled water to passengers at certain important stations and this proved very popular.

147. Steps taken to alleviate overcrowding in trains.—The major problem tackled during the year related to the reduction of overcrowding in trains which, in spite of the best endeavours of the Railway Administrations, still persisted. With the provision of additional coaches and running of extra trains considerable improvement was noticed.

The *Janata* Express trains also helped to alleviate overcrowding in Third class. These trains, as already referred to in paragraph 32, were increased on some railways and on others their runs were extended.

As already mentioned in the last Report, the introduction of long distance Third class bogies on all important Mail and Express trains and the drive launched against ticketless travel also contributed in the reduction of overcrowding in compartments.

CHAPTER IX

ACCIDENTS

148. Major accidents.—Four major accidents occurred during the year. The first of these was to 10 Down Kumaon Express on 12 April 1950 while running between Bitroi and Kachhla stations on the Bareilly-Kasganj section of the Oudh Tirhut Railway. The engine and seven coaches behind it were derailed on the approach to the Tarara Bridge. The engine capsized after travelling across the bridge and three of the derailed coaches fell down into the bed of the *nullah*. The casualties amounted to 36 persons killed and 143 injured. The approximate cost of the damage to engine, rolling-stock and permanent way was Rs. 4,37,500. The derailment was caused by the track having been tampered with by some unknown persons.

On 7 May 1950, while 5 Up Punjab Mail was running between Jasidih and Lahabone stations on the Asansol-Kiul main line section of the East Indian Railway, the engine and six coaches behind it were derailed after the train had just passed the Tamakhan Bridge. The engine and three of the derailed coaches capsized. The casualties were heavy: 92 persons were killed and 178 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 1,89,000. The derailment was caused by the track having been tampered with by some unknown persons.

The third accident occurred on 13 August 1950, while 320 Down Goods was running between Karmnasa and Durgauti stations on the Grand Chord section of the East Indian Railway. Its engine and twelve wagons next to it were derailed on the Down Line, on Girder Bridge No. 680. Two of the derailed wagons fouled the Up Line. At about the same time 7 Up Toofan Express approaching on the Up Line ran into the two wagons fouling the Up Line. The engine and five coaches next to it derailed. Three of the derailed coaches and the engine capsized. Twenty-nine persons were killed and 113 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 1,77,750. The derailment of 320 Down Goods was due to the track having been tampered with by some unknown persons.

The Bihar State Police contended that the cause of the accident to 320 Down Goods which in turn caused the accident to the Toofan Express was not sabotage as found by the Government Inspector of Railways, but some defect in that track and/or rolling-stock, such as, hot axle, breakage of springs, etc., and demanded a judicial enquiry to determine the cause of the accidents to 320 Down Goods and 7 Up Toofan Express. The Government of India accordingly ordered a judicial enquiry and appointed for the purpose the Honourable Mr. Justice Himansu Kumar Bose, Judge of the Calcutta High Court, assisted by two Assessors. After a thorough enquiry, which commenced on 18 December 1950 and concluded on 15 January 1951, the Honourable Judge upheld the findings of the Government Inspector of Railways *in toto*.

The next accident was to 321 Up Kashmir Mail on 3 September 1950 between Dinanagar and Gurdaspur stations on the Pathankot-Amritsar section of the Eastern Punjab Railway. The engine and four coaches behind it were derailed on a small bridge No. 219. The derailed coaches telescoped into each other. Twelve persons were killed and 65 injured. The approximate cost of damage to engine, rolling-stock, bridge and permanent way was Rs. 1,01,000. There was very heavy rainfall in the Amritsar-Pathankot section on 2 and 3 September 1950, and the derailment was due to scour under the foundation of the north abutment of bridge No. 219 and the undermining of the bank for some distance behind this abutment caused by an exceptional flow of flood water with a high velocity across the track at that place.

149. **Review of accident statistics.**—The following statement analyses under certain principal heads, the accidents which occurred during the last two years. A statement showing the character and extent of accidents in greater detail for each Railway will be found in Appendix D of Volume II of this Report. It will be observed that the total number of accidents shows an increase of 9 or 0·004 per cent as compared with the previous year. The increase in the total train miles was, however, of the order of 3 per cent. Thus for a considerable increase in train mileage the incidence of accidents has been lower. It may, therefore, be stated that the drive to minimize the accidents which was vigorously pursued during the year began to yield results.

ACCIDENTS DURING 1949-50 AND 1950-1 CLASSIFIED UNDER PRINCIPAL HEADS

	1949-50	1950-1
(1) Derailments not involving passenger trains	7,821	**7,447**
(2) Running over cattle	4,522	**5,176**
(3) Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	3,217	**2,434**
(4) Accidents due to failure of coupling and draw-gear	2,491	**2,656**
(5) Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department	1,654	**1,634**
(6) Fires in trains at stations and bridges	485	**481**
(7) Accidents due to other rolling-stock failures	350	**420**
(8) Derailment of passenger trains	277	**239**
(9) Collision involving goods trains or goods vehicles	187	**239**
(10) Attempted train wrecking	154	**206**
(11) Accidents due to failure of axles	147	**108**
(12) Running over obstructions (other than those included under 'train wrecking', 'attempted train wrecking' and 'trains running into road traffic at level crossing')	143	**153**
(13) Trains running into road traffic at level crossings	143	**134**
(14) Broken rails	107	**127**
(15) Landslips	104	**18**
(16) Flooding of permanent way	100	**122**
(17) Accidents due to failure of brake apparatus	76	**40**
(18) Collision between light engines	59	**39**
(19) Passenger trains running in the wrong direction through points but not derailed	58	**35**
(20) Collision involving passenger trains	38	**30**
(21) Accidents due to failure of tyres and wheels	26	**4**
(22) Train wrecking	20	**23**
(23) Failure of bridges, tunnels, etc.	3	**15**
(24) Miscellaneous	324	**635**
TOTAL	22,406	**22,415**

Derailments not involving passenger trains still account for the largest number of accidents, *i.e.*, 33 per cent of the total. The others are stated below:—

	Per cent
Running over cattle	23
Accidents due to failure of couplings and drawgear . .	12
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	11
Accidents due to failure of engines owing to faulty material and workmanship in the Mechanical Department . .	7
Fires in trains at stations and bridges	2
Accidents due to other rolling-stock failures	2
Derailments of passenger trains	1
Collision involving goods trains or goods vehicles . .	1

Accidents in railway workshops accounted for the death of seven and injuries to 16,661 railway servants, or a decrease of 11 in the former and 1,898 in the latter as compared with the previous year.

The number of passengers, railway servants and other persons killed and injured in accidents on Indian Railways exclusive of casualties in railway workshops during 1950-1 as compared with the previous year may be seen from the following table. The number killed was less but the number injured was more as compared with the previous year. Heavy casualties in four major accidents towards the beginning of the year, already mentioned in paragraph 148 "Major Accidents" accounted for 157 killed and 434 injured.

NUMBER OF PERSONS INJURED IN ACCIDENTS ON INDIAN RAILWAYS DURING 1949-50 AND 1950-1

Classification	Killed		Injured	
	1949-50	**1950-1**	1949-50	**1950-1**
A.—Passengers				
(a) In accidents to trains, rolling-stock, permanent way, etc.	126	**174**	443	**745**
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents	478	**414**	2,980	**3,436**
(c) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned	1	**1**	9	**28**
TOTAL .	605	**589**	3,432	**4,209**
B.—Railway servants				
(a) In accidents to trains, rolling-stock, permanent way, etc.	18	**26**	323	**261**
(b) In accidents caused by the movement of trains and railway vehicles exclusive of train accidents	195	**151**	5,479	**5,997**
(c) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned	19	**22**	17,349	**19,112**
TOTAL .	232	**199**	23,151	**25,370**
C.—Other than passengers and railway servants				
(a) In accidents to trains, rolling-stock, permanent way, etc.	103	**92**	190	**119**
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents	3,349	**3,219**	1,593	**1,955**
(c) In accidents on railway premises in which movement of trains, vehicles, etc., was not concerned	10	**18**	58	**59**
TOTAL .	3,462	**3,329**	1,841	**2,133**
GRAND TOTAL .	4,299	**4,117**	28,424	**31,712**

Of the total of 4,117 persons killed, 3,329 or 81 per cent were other than passengers and railway servants and, of this number 2,713 were trespassers and 287 were suicides. Altogether 41 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

As compared with the previous year, the number of passengers killed and injured in accidents to trains, rolling-stock, and permanent way, etc., increased by 48 and 302 respectively, owing to the heavy casualties in the four major accidents described in the preceding paragraph. The number of passengers, railway servants, and persons other than passengers and railway servants injured in accidents caused by movement of trains and railway vehicles, exclusive of train accidents, increased by 456, 518, and 362 respectively due to the following reasons:—

(a) *Passengers.*—Mainly due to the larger number of cases of falling or jumping out of carriages during the running of trains and also of falling on to the platforms, ballast, etc., when getting into or out of trains.

(b) *Railway servants.*—The increase is chiefly due to the increase in the number of accidents during shunting operations, while attending to or failure of machinery, etc., of engines in steam and other miscellaneous causes.

(c) *Persons other than passengers and railway servants.*—The increase is mainly due to the increase in the number of cases of trespassing on the line.

The increase of 1,763 in the number of railway servants injured in accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned, is accounted for by the larger number of those who sustained injuries while attending to stationary wagons in sheds, or while loading, unloading, or sheeting wagons, or for other miscellaneous causes.

The following statement shows the number of passengers killed and injured in train accidents only, *i.e.*, collisions, derailments, etc., during the last five years as compared with the number carried.

NUMBER OF PASSENGERS KILLED AND INJURED IN TRAIN ACCIDENTS, 1946-7 TO 1950-1*

Year	†Number of passengers carried (in millions)	Killed		Injured	
		‡Number	Per million passengers carried	Number	Per million passengers carried
1946-7	1,139	93	0·08	340	0·29
1947-8	1,044	298	0·29	721	0·69
1948-9	§1,185	55	0·05	260	0·22
1949-50	§1,303	111	0·09	365	0·28
1950-1	**1,358**	**21**	**0·02**	**284**	**0·21**

* See note at the end of this Chapter.
† Represents total number carried on all Railways.
‡ Excludes train wrecking and attempted train wrecking.
§ Revised figures.

On Class I Railways, the number of railway servants killed in accidents caused by the movement of trains and railway vehicles and exclusive of train accidents decreased by 46, while the number of those injured increased by 541. The main causes for these accidents are analysed in the following table:—

CLASSIFICATION OF ACCIDENTS TO RAILWAY SERVANTS

Cause	Killed		Injured	
	1949-50	1950-1	1949-50	1950-1
(1) Misadventure or accidental	165	117	5,099	5,478
(2) Want of caution or misconduct on the part of the injured person.	19	23	269	463
(3) Want of caution or breach of rules, etc., on the part of railway servants other than the person injured.	3	1	58	25
(4) Defective apparatus, appliance, etc., or want of sufficient appliances, safeguards, etc.	..	..	..	1
TOTAL .	187	141	5,426	5,967

150. Appointment of Claims Commissioners.—The three Claims Commissioners referred to in the previous year's report continued to function and between them disposed of as many as 321 claims. It is satisfactory to note that all claims preferred in connection with the Sullurupeta accident which took place on 3 March 1950 were disposed of before the end of July 1950. During the year another four Claims Commissioners were appointed in connection with other major accidents and they disposed of 410 claims.

NOTE.—Figures for 1946-7 and for previous years, where given are *inclusive* of the Bengal and Assam and North Western Railways. Figures for 1947-8 are *exclusive* of the Bengal and Assam and North Western Railways but *inclusive* of Eastern Punjab and Assam Railways for the period 15 August 1947 to 31 March 1948 only, while those for 1948-9 and subsequent years are *inclusive* of Eastern Punjab and Assam Railways for the whole year.

APPENDIX A

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and Convention Resolutions of 1943 and 1949.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve ; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues ; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital ; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before

the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organization of the Stores Purchase Department of the Government of India."

Convention Resolution of 1943

The Legislative Assembly on 2 March 1943 passed the following resolution:—

"Whereas it has been found that the Convention, which was adopted under the Assembly Resolution, dated 20 September 1924, and which was intended to relieve the General Budget from violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State, has not achieved these objects, this Assembly recommends to the Governor General in Council that:

(i) for the year 1942-3, a sum of Rs. 2,35,32 thousand shall be paid to general revenues over and above the current and arrear contribution due under the Convention,

(ii) from the 1 April 1943, so much of the Convention as provides for the contribution and allocation of surpluses to general revenues shall cease to be in force,

(iii) for the year 1943-4, the surplus on commercial lines shall be utilised to repay any outstanding loan from the depreciation fund and thereafter be divided 25 per cent to the railway reserve and 75 per cent to general revenues, the loss, if any, on strategic lines being recovered from General Revenues, and

(iv) for subsequent years and until a new convention is adopted by the Assembly, the allocation of the surplus on commercial lines between the railway reserve and general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic lines being recovered from general revenues."

Convention Resolution of 1949

The Constituent Assembly of India (Legislative) on 21 December 1949 passed the following resolution:—

"This Assembly, after considering the recommendations of the Committee appointed by it in April 1949 to review the Convention relating to the separation of railway from general finance which was adopted under the Assembly Resolution, dated 20 September 1924, and in supersession of that and all other previous resolutions on the subject, resolve:—

(1) that railway finance shall continue to remain separated from general finance;

(2) that the general tax-payer shall have the status of the sole shareholder in the railway undertaking;

(3) that on the capital invested out of general revenues in the railway undertaking as computed annually, general revenues shall receive only a fixed annual dividend;

(4) that for a period of five years, commencing from 1950-1, the annual dividend, shall be a sum calculated at the rate of 4 per cent on the capital invested provided that no dividend shall be payable on the capital invested out of general revenues in unremunerative strategic lines;

(5) that a Committee of the House shall review the rate of dividend towards the end of the aforesaid period and suggest for the years following it any adjustment considered necessary, having regard to the revenue returns of the railway undertaking, the average borrowing rate of government and any other relevant factors;

(6) that the existing railway reserve shall be renamed the Revenue Reserve Fund and utilised primarily for maintaining the agreed payments to general revenues and for making up any deficit in the working of the railways;

(7) that a Development Fund shall be constituted for financing expenditure for the following purposes:—

(*a*) passenger amenities,

(*b*) labour welfare, and

(*c*) railway projects which are necessary, but unremunerative.

(8) that for meeting the cost of replacement and renewal of assets, the Depreciation Reserve Fund shall receive, for the next five years, a minimum contribution of Rs. 15 crores per annum chargeable to the working expenses of the undertaking;

(9) that the railway surplus shall be available for distribution amongst the Revenue Reserve Fund, the Development Fund, and the Depreciation Reserve Fund to the extent the last-named needs strengthening over and above the minimum annual contribution;

(10) that a Standing Finance Committee for Railways and a Central Advisory Council for Railways shall be constituted in the manner laid down in the motion adopted by this House on 23 March 1949;

(11) that the annual estimates of railway expenditure shall be placed before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demands for grants for railways by the Assembly; and

(12) that the Railway Budget shall be presented to the House, if possible, in advance of the general budget and separate days shall be allotted for its discussion and the Minister for Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the Railway Budget, including the appropriation to the Depreciation Reserve Fund, the Development Fund, and the Revenue Reserve Fund shall be placed before the House in the form of demands for grants. The form the budget shall take, the details it shall give, and the number of grants into which the total vote shall be divided, shall be drawn up by the Ministry of Railways in consultation with the Standing Finance Committee for Railways.

2. This Resolution shall come into force from 1 April 1950."

APPENDIX B

MINISTRY OF RAILWAYS

Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1951

The Hon'ble Shri N. Gopalaswami Ayyangar, Minister for Transport and Railways

The Hon'ble Shri K. Santhanam, Minister of State for Transport and Railways

Railway Board

Shri K. C. Bakhle . .	Chief Commissioner of Railways
Shri A. K. Chanda . .	Financial Commissioner of Railways
Shri F. C. Badhwar . .	Member (Engineering)
Shri V. Nilakantan . .	Member (Staff)
Shri S. S. Vasist . . .	Member (Transportation)
Shri H. K. L. Sethi . .	Director, Civil Engineering
Shri P. N. Saxena . .	Director, Establishment
Shri N. C. Deb . . .	Director, Finance (Budget)
Shri K. Sadagopan . .	Director, Finance (Expenditure)
Shri P. Morris . . .	Director, Mechanical Engineering
Shri A. A. Brown . .	Director, Traffic
Shri L. A. Natesan . .	Economic Adviser
Shri S. S. Ramasubban .	Secretary
Shri G. Rama Rau . .	Deputy Secretary
Shri N. L. Das Gupta . .	Assistant Secretary
Shri D. C. Baijal . .	Joint Director, Civil Engineering (Temporary)
Shri K. S. Bhandari . .	Joint Director, Finance (Temporary)
Shri P. C. Kapur . .	Joint Director, Mechanical Engineering (Temporary)
Shri S. K. Guha . . .	Joint Director, Traffic, General (Temporary)
Shri Ranjit Singh . .	Joint Director, Traffic Transportation (Temporary)
Shri V. T. Narayanan .	Deputy Director, Establishment I
Shri R. Srinivasan . .	Deputy Director, Establishment II (Temporary)
Shri M. L. Mukherjee .	Deputy Director, Finance (Budget), I
Shri Haveli Ram . . .	Deputy Director, Finance (Budget), II
Shri K. S. A. Padmanabhan	Deputy Director, Finance, Expenditure (Temporary)
Shri B. R. Nanda . .	Deputy Director, Public Relations
Shri M. K. Krishnamachari	Deputy Director, Statistics (Temporary)
Shri L. N. Mathur . .	Deputy Director, Tele-Communication (Temporary)
Shri Rajindra Dev . .	Deputy Director, Traffic, Transportation (Temporary)
Shri S. L. Jaini . . .	Assistant Director, Establishment (Temporary)
Shri D. C. Rewari . .	Assistant Director, Finance Establishment (Temporary)
Shri V. R. Ganeshan . .	Assistant Director, Finance, General (Temporary)
Shri A. Hildreth . .	Assistant Director, Stores (Temporary)

Attached Officers

Shri M. D. Sethna . .	Officer on Special Duty, Preferential Traffic, (Temporary)
Shri B. B. Mathur . .	Officer on Special Duty, Regrouping (Temporary)
Shri R. Krishnaswamy .	Officer on Special Duty, Transportation Power (Temporary)

Superintendents

Shri Tek Chand	On leave preparatory to retirement
Shri M. K. S. Aiyar	On leave preparatory to retirement
Shri Surjan Singh	On leave
Shri Ram Singh	Budget Branch
Shri P. M. Narsimhan	Establishment I Branch
Shri N. Rajagopalan	Establishment II Branch
Shri R. R. Hariharan	Establishment III Branch
Shri P. S. Doraisamy	Establishment IV Branch
Shri Tara Chand	Establishment, Reconstruction Branch
Shri Parshotam Lal	Finance, Establishment Branch
Shri S. Sivaraman	Finance, Expenditure Branch
Shri Acharj Ram	General Branch
Shri A. C. Ahuja	Mechanical Engineering Branch
Shri A. Mascarenhas	Preferential Traffic Branch
Shri Kanwar Bahadur	Statistics Branch
Shri A. R. Chitnis	Statistics Branch (*on leave*)
Shri R. N. Dutta	Stores Branch
Shri S. K. Misra	Traffic, Commercial Branch
Shri A. N. Sheopory	Traffic, Transportation Branch
Shri M. P. Haran	Works Branch

Railway Stores Enquiry Committee

Shri A. D. Shroff, Director, Tata Locomotive and Engineering Co. Ltd., Bombay.	Chairman
Shri K. L. Ghei, Joint Director, Railway Board	Member
Shri K. M. Rau, Controller of Stores, Great Indian Peninsula Railway.	Member-Secretary
Shri K. C. Khosla, Director of Supplies, Ministry of Industry and Supply.	Member

Attached Officers

Central Standards Office for Railways

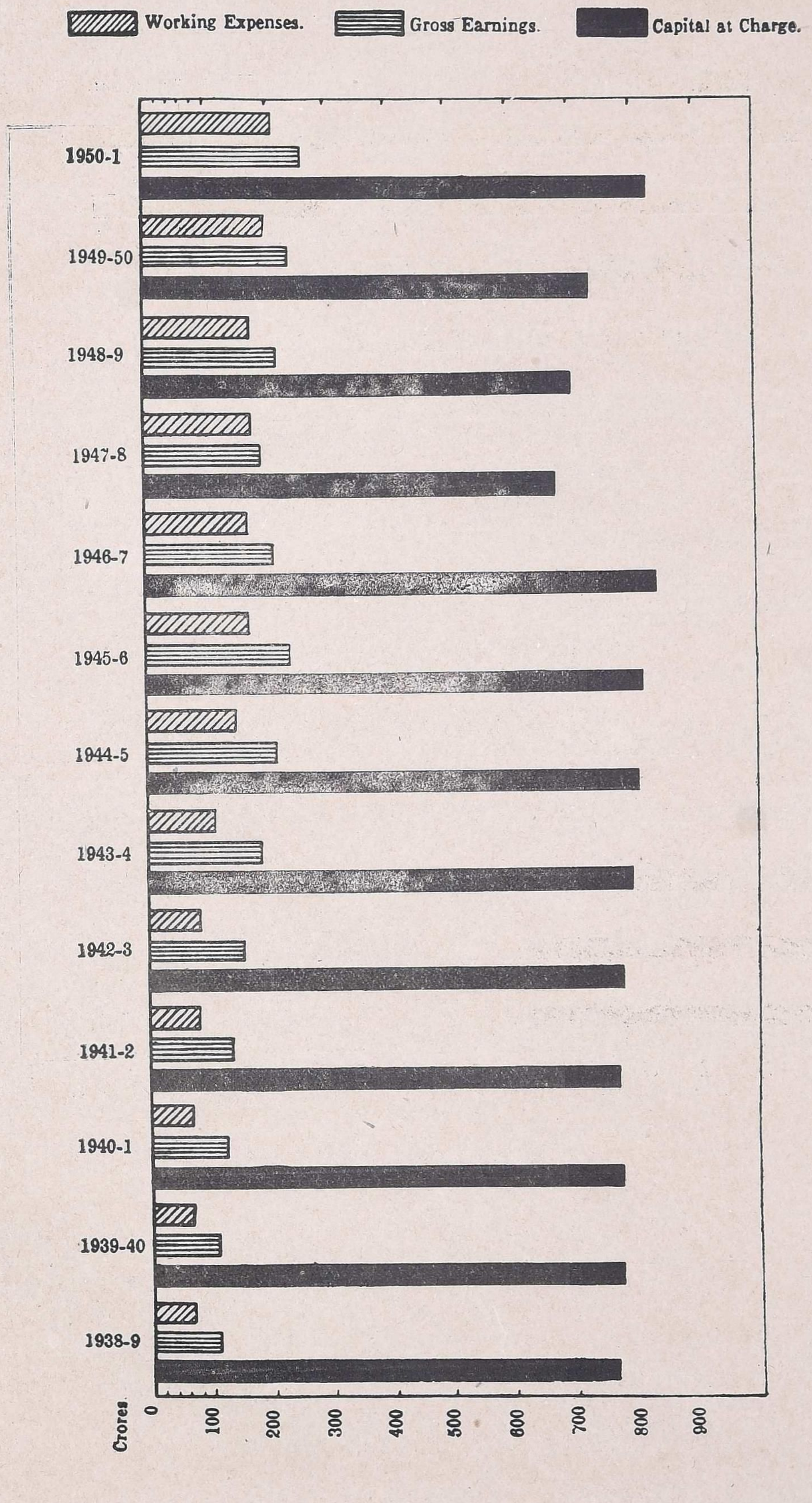
Shri D. Narayanaswamy Chetty	Deputy Chief Controller of Standardization-in-Charge
Shri B. S. Sindhu	Deputy Chief Controller of Standardization (C. & W.)
Shri R. H. G. da Cunha da Costa	Deputy Chief Controller of Standardization (Designs)
Shri V. Venkataramayya	Deputy Chief Controller of Standardization (Civil)
Shri S. R. Woodmore	Assistant Chief Controller of Standardization (S. & R.)
Shri M. V. Kamlani	Assistant Chief Controller of Standardization (Loco.)
Shri L. C. Mohindra	Assistant Chief Controller of Standardization (Civil)
Shri Dutt Kumar	Assistant Chief Controller of Standardization (C. B.)
Shri B. L. Bailur	Assistant Chief Controller of Standardization (Loco. & Carr.)
Shri Kurt Vogl	Research Officer (Civil) I
Shri Walter Frey	Research Officer (Civil) II
Shri R. L. Vohra	Research Officer (Mechanical)
Shri R. G. Bhatawadekar	Research Officer (Metallurgical & Chemical)
Shri R. Basu Chowdhury	Research Officer (Designs of Steel Structures)
Shri S. S. Varma	Research Officer (Soil Mechanics)
Shri I. C. Bhatt	Research Officer (Electrical)
Shri O. S. Murthy	Oscillograph Car Officer
Shri B. V. Mallya	Dynamometer Car Officer
Shri J. T. Wheatley	Inspecting Officer for Railways, Tatanagar

APPENDIX C

GRAPHS

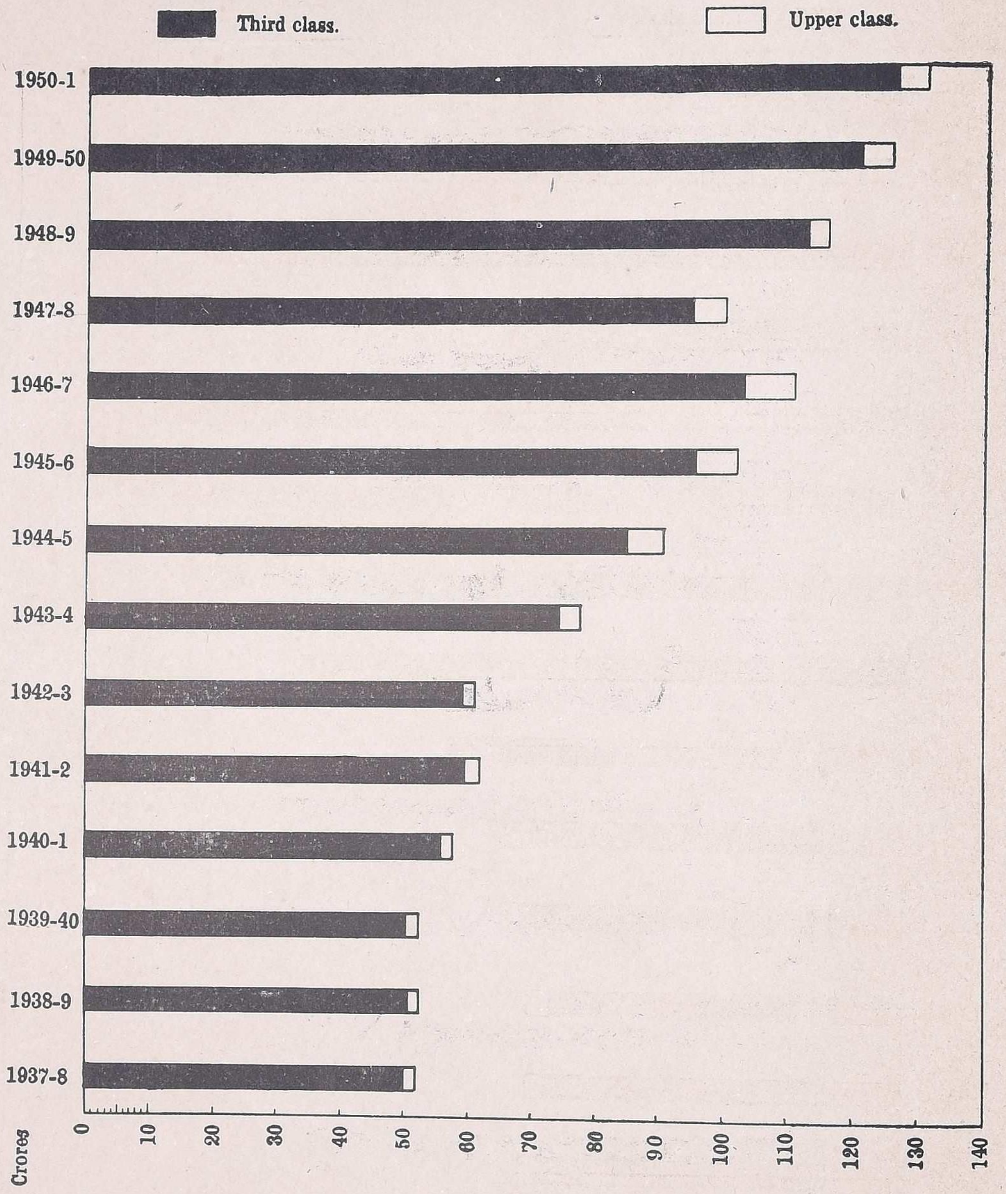
TOTAL CAPITAL AT CHARGE, TOTAL GROSS EARNINGS AND TOTAL WORKING EXPENSES OF INDIAN GOVERNMENT RAILWAY LINES

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



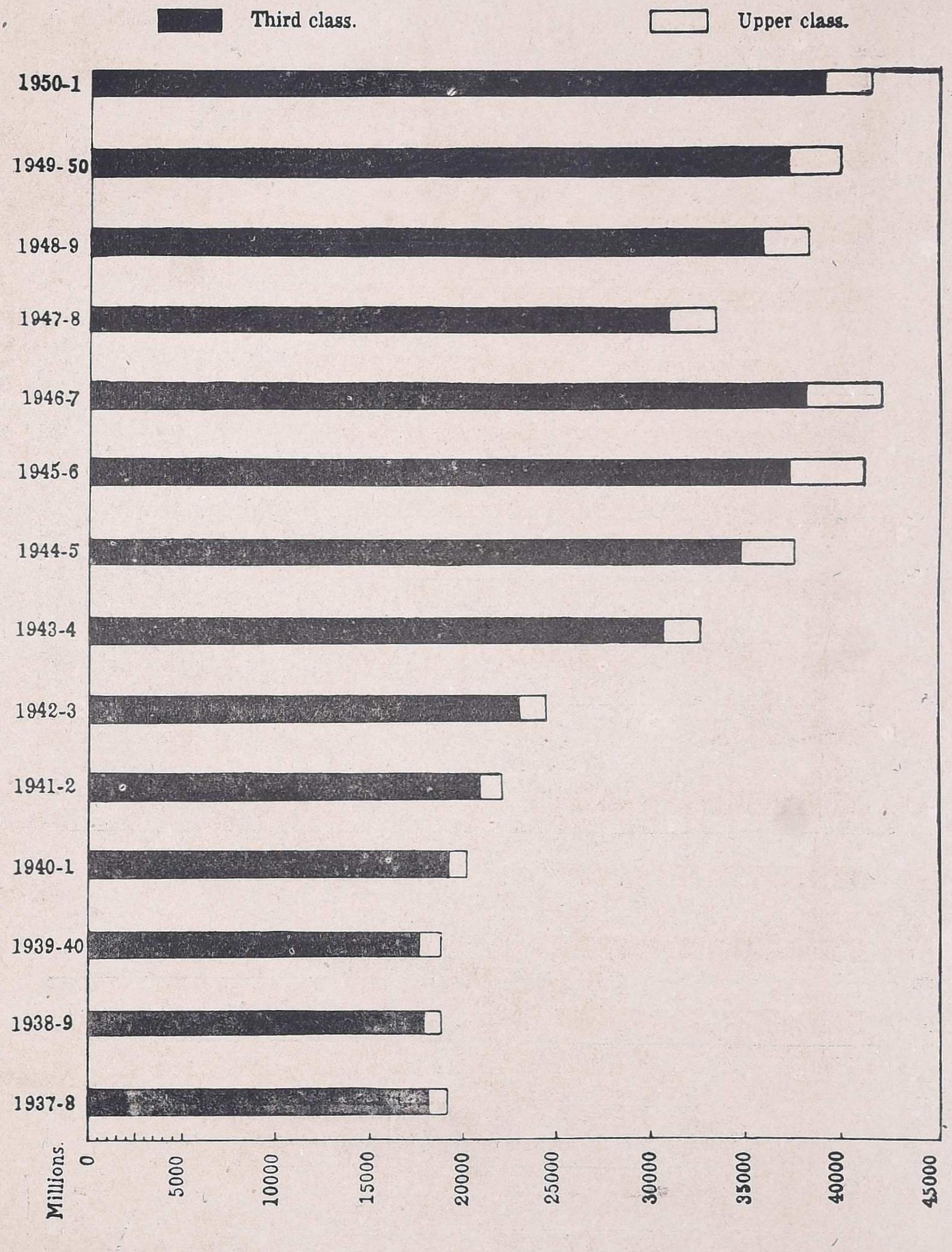
NUMBER OF PASSENGERS CARRIED ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



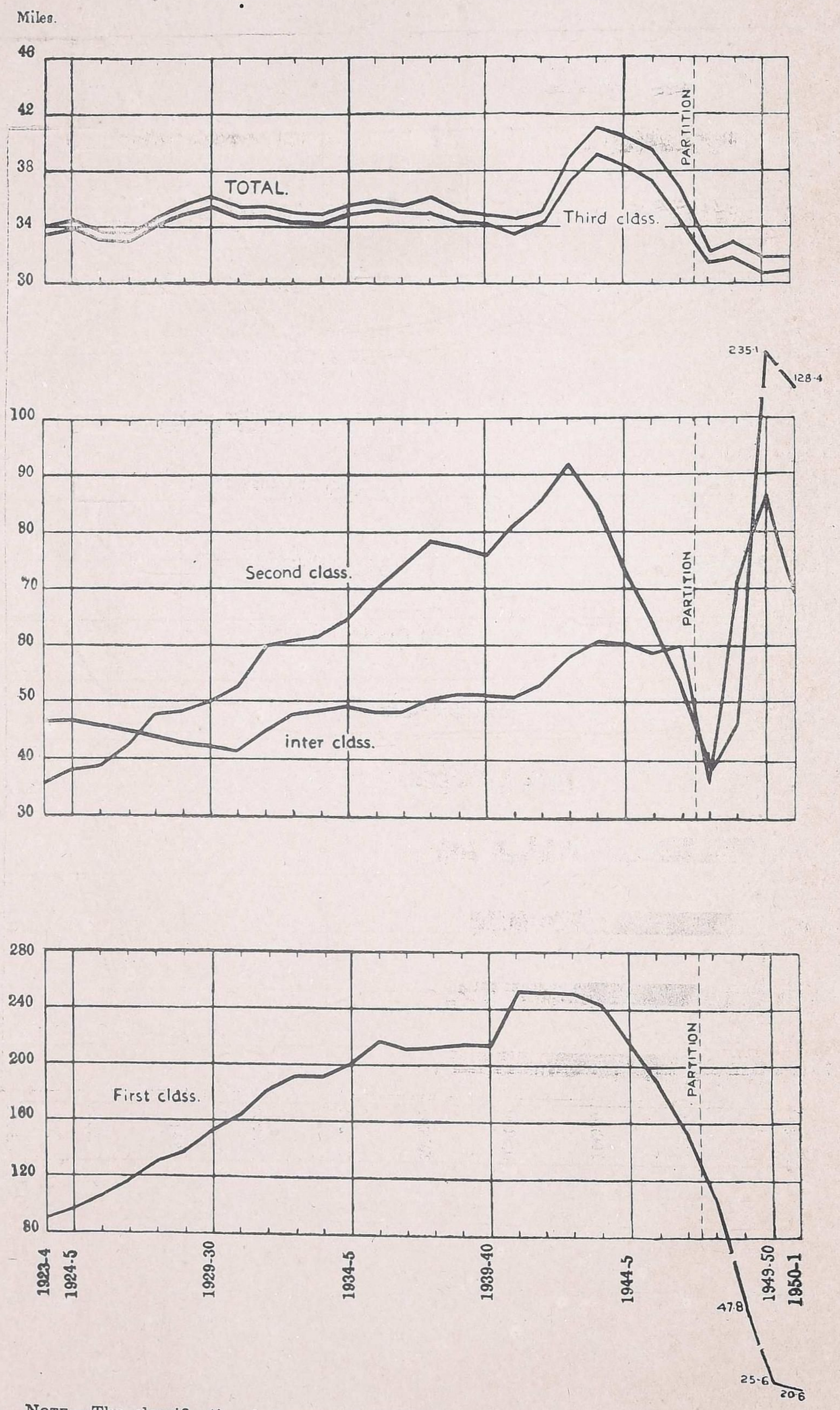
NUMBER OF PASSENGER MILES ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



AVERAGE MILES A PASSENGER WAS CARRIED
ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



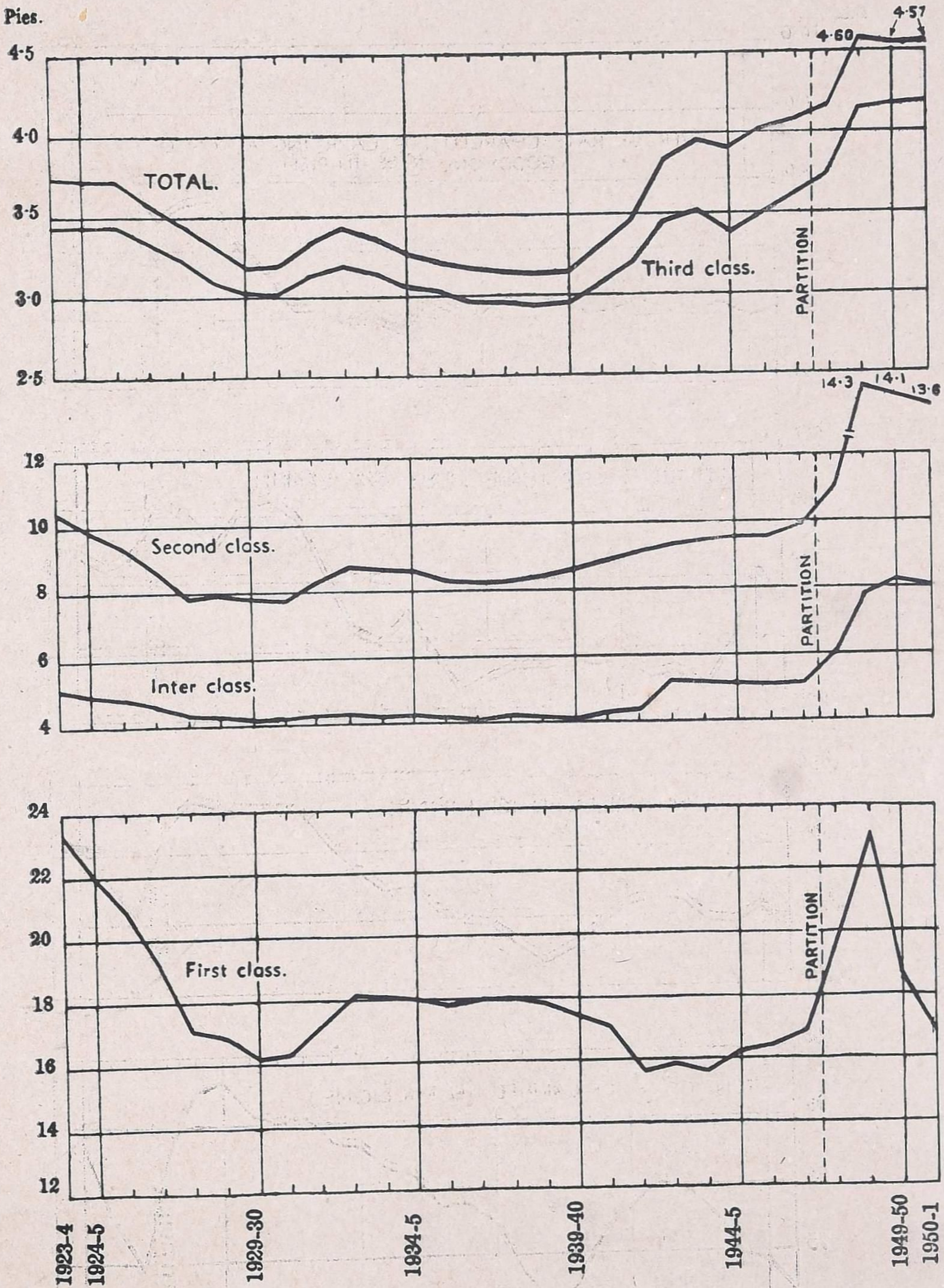
NOTE.—The classification between 1 December 1948 and 30 June 1950 has been taken to correspond with the old classification as under:—

Class I=First class
Class II Special=Second class
Class II=Inter class
Class III=Third class

AVERAGE RATE CHARGED PER PASSENGER PER MILE

ALL INDIAN RAILWAYS

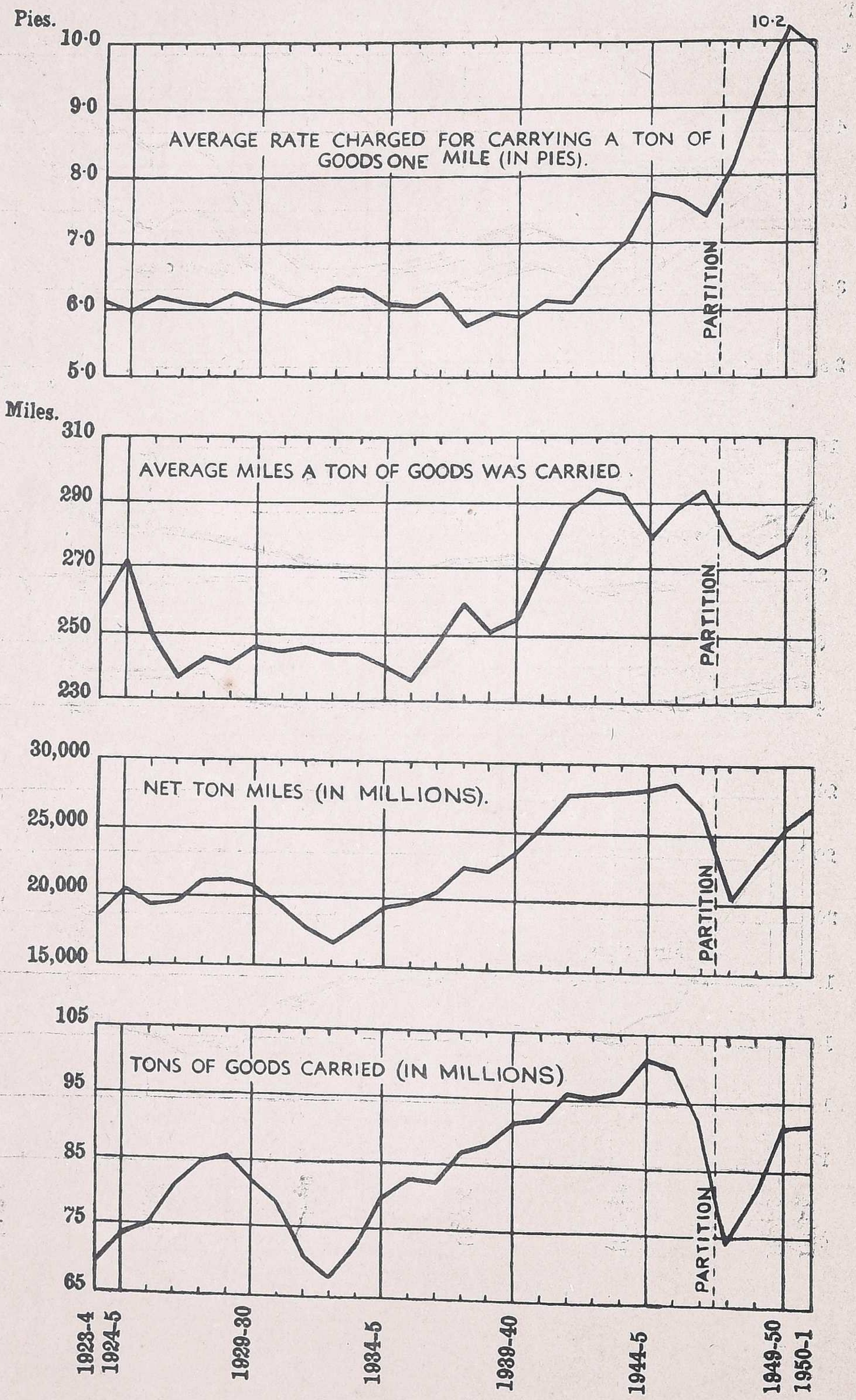
(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



AVERAGE RATE, AVERAGE LEAD, NET TON MILES, TONS CARRIED

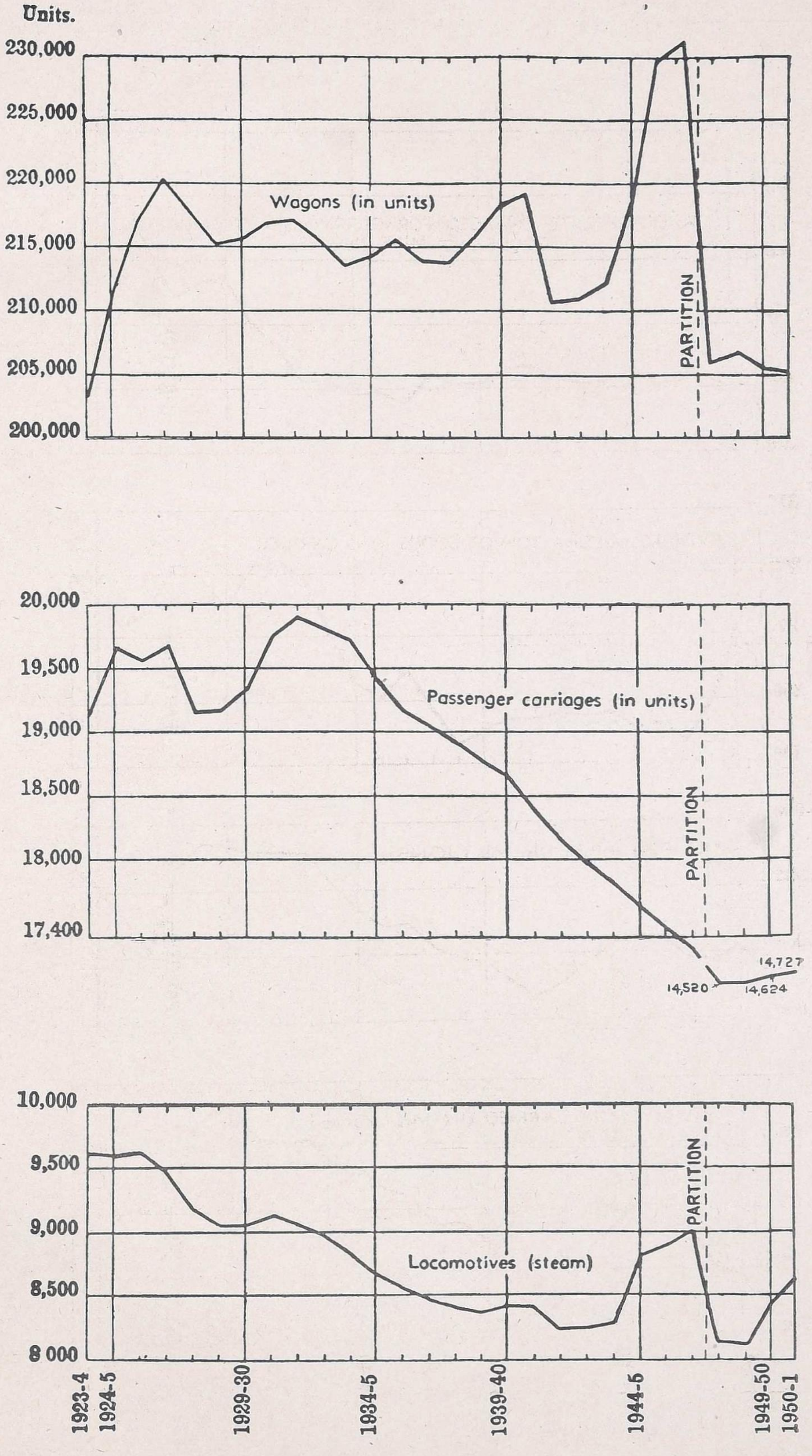
ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



ROLLING STOCK IN SERVICE ALL INDIAN RAILWAYS

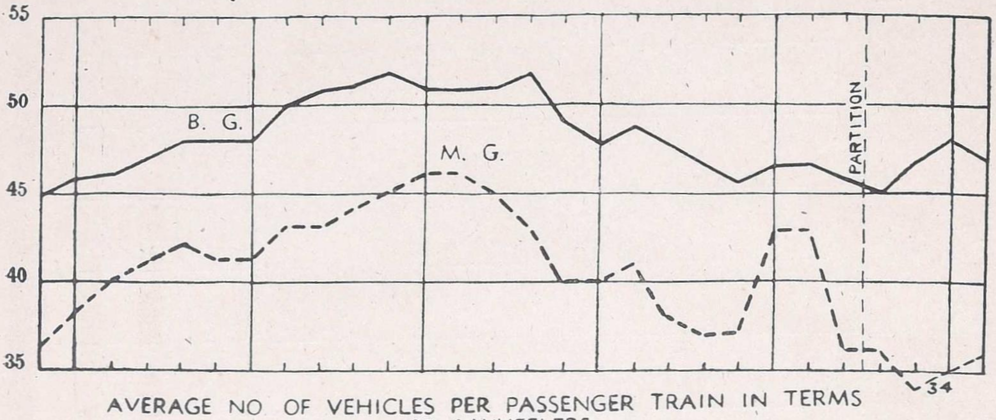
(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



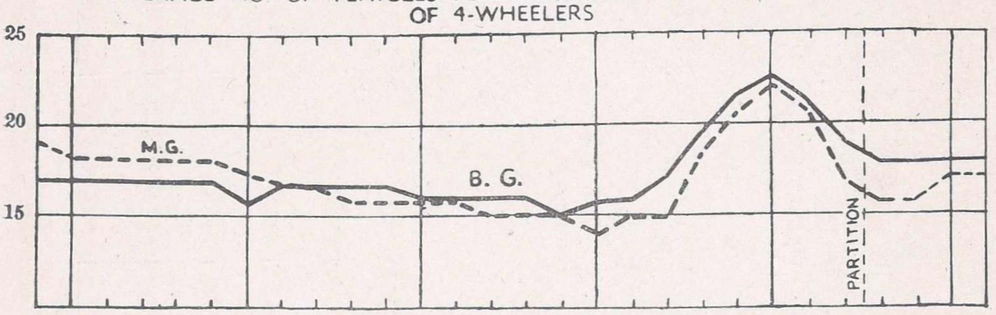
WAGON AND VEHICLE UTILIZATION, CLASS I RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)

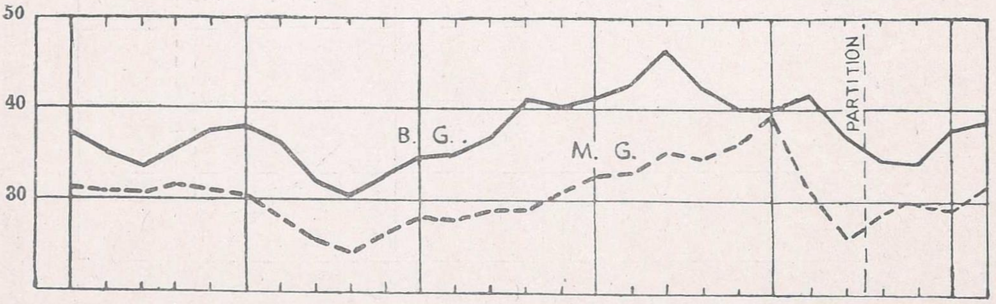
AVERAGE NO. OF WAGONS PER GOODS TRAIN—MAIN LINE IN TERMS OF 4-WHEELERS.



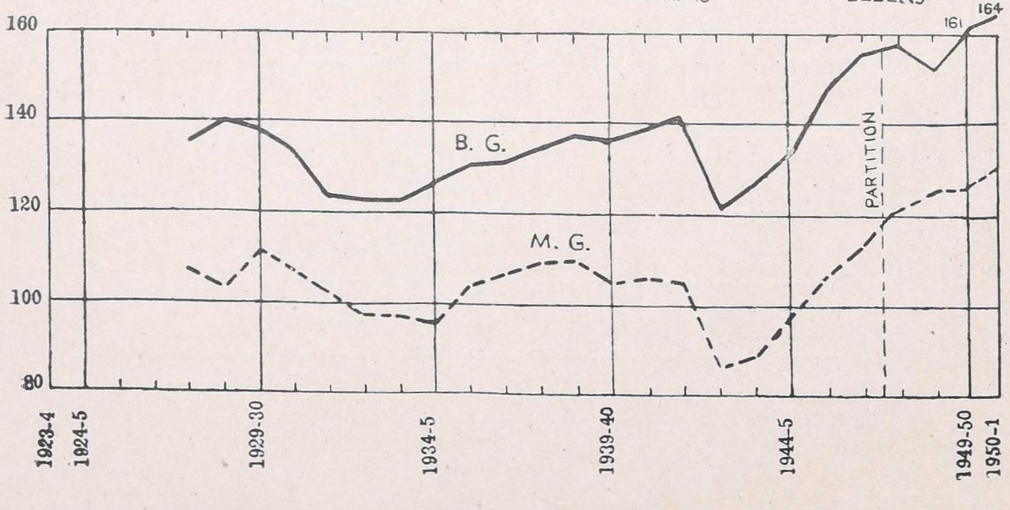
AVERAGE NO. OF VEHICLES PER PASSENGER TRAIN IN TERMS OF 4-WHEELERS



WAGON MILES PER WAGON DAY IN TERMS OF 4-WHEELERS

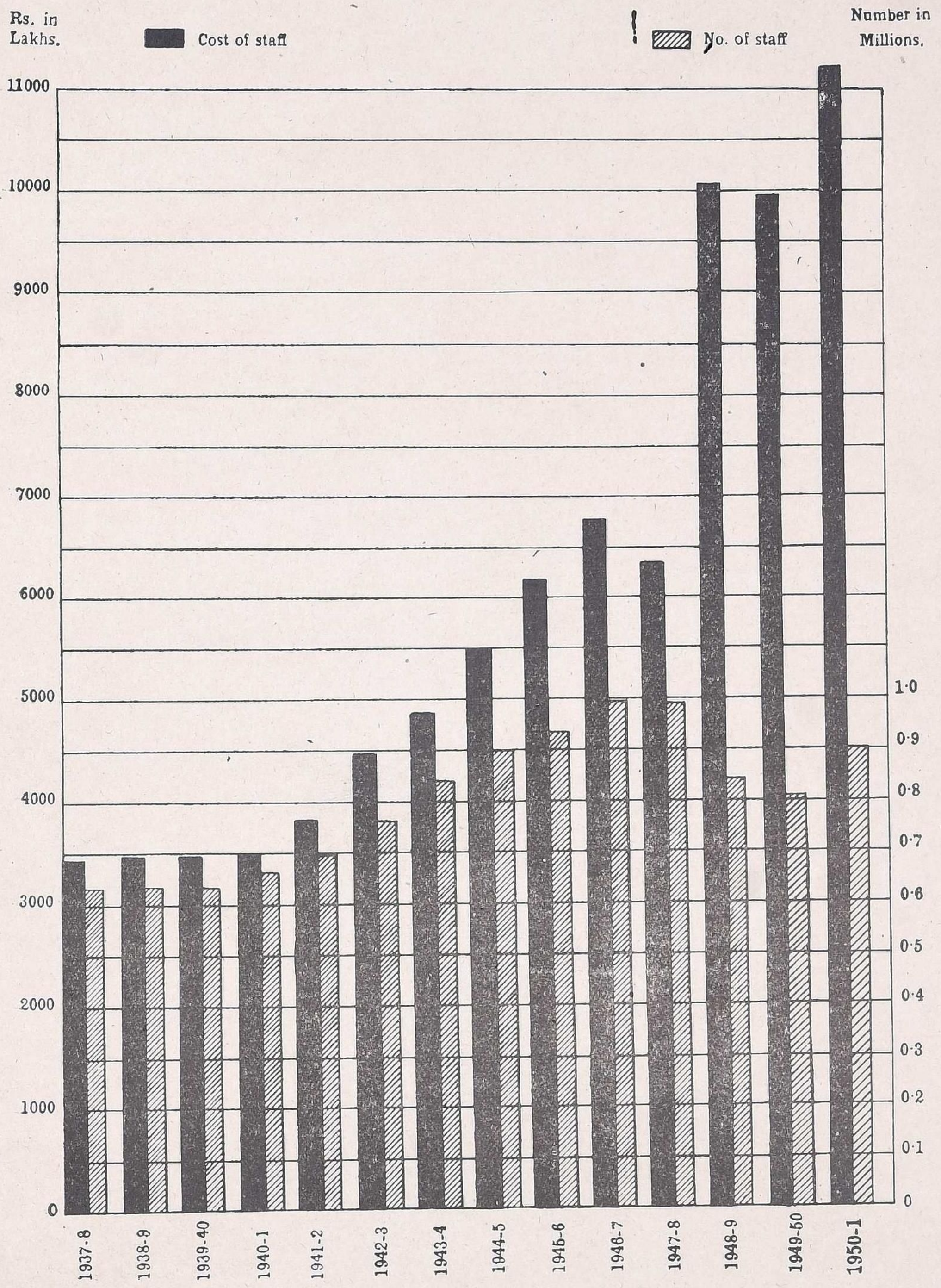


VEHICLE MILES PER VEHICLE DAY IN TERMS OF 4-WHEELERS



TOTAL NUMBER AND COST OF STAFF INDIAN GOVERNMENT RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



APPENDIX D

Railway Administrations in India alphabetically arranged by Classes according to their gross earnings showing the working agencies ownership, and route mileage open on 31 March 1951.*

Indian Railway systems have been classified under three Classes for statistical purposes :—

Class I Railways with gross earnings of Rs. 50 lakhs and over a year.

Class II Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs a year.

Class III Railways with gross earnings of Rs. 10 lakhs and under a year.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS I RAILWAYS			
1. Assam	Indian Government	(a) Assam†	5′-6″	2	Indian Government
		(b) Assam	3′-3⅜″	1,646	Do.
		(c) Chaparmukh-Silghat‡	3′-3⅜″	51	Branch Line Company under guarantee terms
		(d) Katakhal-Lala-bazar‡	3′-3⅜″	23	Do.
		(e) Assam (D. H. section)	2′-0″	52	Indian Government
2. Bengal Nagpur	Indian Government	(a) Bengal Nagpur	5′-6″	2,463	Do.
		(b) Bengal Nagpur§	2′-6″	925	Do.
3. Bikaner State	Indian Government	Bikaner State‖	3′-3⅜″	883	Do.
4. Bombay, Baroda & Central India	Indian Government	(a) Bombay, Baroda & Central India¶	5′-6″	1,266	Do.
		(b) Bombay, Baroda & Central India	3′-3⅜″	2,241	Do.
		(c) Bombay, Baroda & Central India	2′-6″	580	Do.
5. East Indian	Indian Government	(a) East Indian	5′-6″	4,357	Do.
		(b) Kanpur-Barabanki & others	3′-3⅜″	6	Do.
		(c) Santipur-Nabadwip	2′-6″	17	Do.
6. Eastern Punjab	Indian Government	(a) Eastern Punjab††	5′-6″	1,726	Do.
		(b) Rupar-Nangal Dam**	5′-6″	34	Do.
		(c) Kalka-Simla	2′-6″	60	Do.
		(d) Kangra Valley	2′-6″	68	Do.

* No reclassification of Railways has been made after 1942 though earnings in many cases have exceeded the limits of gross earnings laid down for Class II or Class III Railways.

† This line is newly laid between Haldibari and Pakistan Border for direct communication with Pakistan.

‡ This line is guaranteed by the Government of India and also receives a subsidy from the Assam Government.

§ Includes Mayurbhanj Railway (70·64 miles) purchased by the Government of India on 1 April 1950.

‖ Bikaner State Railway including the Nabha Section was taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

¶ Includes Nagda Ujjain Section (34·79 miles) which was taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

†† Includes Ludhiana—Dhuri Jakhal (78·58 miles), Rajpura-Bhatinda (107·78 miles), Jind-Panipat (25·94 miles) and Sirhind-Rupar (30·96 miles) sections which vest in the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

** Jointly owned by the Government of India and the Government of the Punjab.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS I RAILWAYS—*concld.*			
7. Great Indian Peninsula	Indian Government	(a) Great Indian Peninsula*	5′-6″	3,403	Indian Government
		(b) Great Indian Peninsula	2′-6″	62	Do.
		(c) Ellichpur-Yeotmal	2′-6″	117	Branch Line Company under rebate terms
		(d) Pulgaon-Arvi	2′-6″	22	Do.
		(e) Matheran (Hill) Light	2′-0″	13	Indian Government
8. Jodhpur	Indian Government	Jodhpur†	3′-3⅜″	811	Do.
9. Madras & Southern Mahratta	Indian Government	(a) Madras and Southern Mahratta‡	5′-6″	1,101	Do.
		(b) Tenali-Repalle	5′-6″	21	District Board
		(c) Madras and Southern Mahratta	3′-3⅜″	1,746	Indian Government
		(d) Alnavar-Dandeli (Provincial)	3′-3⅜″	19	Government of Bombay
		(e) West of India Portuguese	3′-3⅜″	51	Foreign Country
10. Mysore State	Indian Government	(a) Mysore State†	3′-3⅜″	588	Indian Government
		(b) Nanjangud Town-Chamarajanagar	3′-3⅜″	22	Guaranteed by Mysore State for Mysore District Board
		(c) Mysore State†	2′-6″	102	Indian Government
11. Nizam's State	Indian Government	(a) Nizam's State†‖	5′-6″	688	Do.
		(b) Nizam's State†¶	3′-3⅜″	773	Do.
12. Oudh Tirhut	Indian Government	Oudh Tirhut	3′-3⅜″	2,741	Do.
13. South Indian	Indian Government	(a) South Indian**	5′-6″	629	Do.
		(b) Cochin Harbour Extension	5′-6″	4	Cochin Harbour Authority
		(c) South Indian††	3′-3⅜″	1,655	Indian Government
		(d) Peralam-Karaikkal	3′-3⅜″	15	Foreign Country
		(e) Pondicherry	3′-3⅜″	8	Do.
		(f) Tinnevelly-Tiruchendur	3′-3⅜″	38	District Board

* Includes Bhopal-Itarsi (56·64 miles), Bhopal-Ujjain (114·55 miles) and Bina-Baran (147·07 miles) Sections which were taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

† Taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

‡ Includes Kolar Goldfields (M. S. Ry.) Section (9·88 miles) which vests in the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

‖ Includes the Indian Government Section, Bezwada Extension (21·54 miles).

¶ Includes the Indian Government Section, Dronachellam (Dhone-Kurnool) (36·28 miles).

** Includes Shoranur-Cochin Railway (69·38 miles) which was taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

†† Includes Travancore (Indian Government Section) (50·52 miles) and Travancore (Indian State Section) including Quilon-Trivandrum Central Extension (97·64 miles) Railways which were taken over by the Government of India as a result of the Federal Financial Integration.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS II RAILWAYS*			
1. Barsi Light	Barsi Light Railway Co.	Barsi Light	2′-6″	203	Unassisted Company
2. Jaipur State	Indian Government	Jaipur State†	3′-3⅜″	291	Indian Government
3. Saurashtra	Indian Government	(a) Saurashtra†‡	3′-3⅜″	1,223	Do.
		(b) Saurashtra Tramway †	2′-6″	140	Do.
4. Shahdara (Delhi)-Saharanpur Light	Shahdara (Delhi) Saharanpur Light Railway Co.	Shahdara (Delhi)-Saharanpur Light §	2′-6″	93	Company subsidized by the Government of India
		CLASS III RAILWAYS*			
1. Ahmadpur-Katwa	Ahmadpur-Katwa Railway Co.	Ahmadpur-Katwa ‖	2′-6″	32	Branch Line Company under guarantee terms
2. Arrah-Sasaram Light	Arrah-Sasaram Light Railway Co.	Arrah-Sasaram Light	2′-6″	65	Company subsidized by District Board
3. Bankura-Damodar River	Bankura-Damodar River Railway Co.	Bankura-Damodar River ‖	2′-6″	60	Branch Line Company under guarantee terms
4. Baraset-Basirhat Light	Baraset-Basirhat Light Railway Co.	Baraset-Basirhat Light	2′-6″	52	Company subsidized by District Board
5. Bengal Provincial	Bengal Provincial Railway Co.	(a) Bengal Provincial	2′-6″	33	Unassisted Company
		(b) Dasghara-Jamalpurganj ‖	2′-6″	9	Branch Line Company under guarantee terms
6. Bukhtiarpur-Bihar Light	Bukhtiarpur-Bihar Light Railway Co.	Bukhtiarpur-Bihar Light	2′-6″	33	Company subsidized by District Board
7. Burdwan-Katwa	Burdwan-Katwa Railway Co.	Burdwan-Katwa ‖	2′-6″	32	Branch Line Company under guarantee terms
8. Cutch State	Indian Government	Cutch State	2′-6″	72	Indian Government
9. Dehri-Rohtas Light	Dehri-Rohtas Light Railway Co.	Dehri-Rohtas Light	2′-6″	24	Company subsidized by District Board
10. Dholpur State	Indian Government	Dholpur State†	2′-6″	55	Indian Government

* Please see footnote '*' on page 115.

† Taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

‡ Includes the Indian Government Sections, Okhamandal (37·21 miles) and Khijadia-Dhari and Prachi Road-Kodinar (53·31 miles).

§ Receives land only from Government.

‖ Guaranteed by the Government of India.

Railway system: Name	Railway system: Worked by	Lines comprised in the system: Name	Gauge	Route mileage	Owned by
		CLASS III RAILWAYS—*concld.*			
11. Futwah-Islampur	Futwah-Islampur Light Railway Co.	Futwah-Islampur ‡	2′-6″	27	Branch Line Company under guarantee terms
12. Howrah-Amta Light	Howrah-Amta Light Railway Co.	Howrah-Amta Light	2′-0″	44	Company subsidized by District Board
13. Howrah-Sheakhala Light	Howrah-Sheakhala Light Railway Co.	Howrah-Sheakhala Light	2′-0″	20	Do.
14. Jagadhri Light	Jagadhri Light Railway Co.	Jagadhri Light	2′-0″	3	Unassisted Company
15. Kalighat-Falta	Kalighat-Falta Railway Co.	Kalighat-Falta ‡	2′-6″	26	Branch Line Company under guarantee terms
16. Rajasthan State	Indian Government	Rajasthan State †	3′-3⅜″	197	Indian Government
17. Scindia State	Indian Government	Scindia State †	2′-0″	294	Do.
18. Tezpore-Balipara Light	Tezpore-Balipara Light Railway Co.	Tezpore-Balipara Light	2′-6″	20	Company subsidized by District Board.§

‡ Guaranteed by the Government of India.

† Taken over by the Government of India with effect from 1 April 1950 as a result of the Federal Financial Integration.

§ Subsidy ceased with effect from 1914-5.

APPENDIX E

Principal Statistics of Railway Working in Selected Foreign Countries.

BRITISH RAILWAYS, 1950*

Capital†	£1,404,222,564
Route mileage	19,471
Total Gross Receipts	£340,070,298
Expenses	£313,740,213
Net traffic receipts	£26,330,085
Operating ratio	92%
Passenger journeys originating (in thousands)	981,675
Passenger miles estimated (millions)	20,177
Passenger earnings (in thousands)	£106,340
Freight train traffic originating tons (in thousands)	281,348
Estimated net ton miles (in thousands)	22,135,378
Freight earnings (in thousands)	£198,917
Train miles—	
Coaching (in thousands)	243,085
Freight (in thousands)	141,024
Number of employees at end of year (including collection and delivery services)	605,455

**Whole-page note: prints "*British Transport..."*

**British Transport Commission Report & Accounts for 1950.*

†Capital represents the gross book value of rolling-stock, vehicles, plant and equipment, lands, buildings, permanent way, etc.

U. S. RAILWAYS, 1949*

Investment in Road and equipment—book value (in thousands)	$29,519,832
Miles of road owned	224,511
Operating revenues (in thousands)	$8,680,791
Operating expenses (in thousands)	$6,968,296
Operating ratio	80·27%
Passengers carried (in thousands)	556,741
Passenger miles (in thousands)	35,133,300
Passenger revenues (in thousands)	$862,139
Total revenue tons carried† (in thousands)	2,425,123
Tons carried one mile† (in thousands)	529,110,641
Freight revenue (in thousands)	$7,151,237
Train miles—	
Passenger train miles (in thousands)	382,213
Freight train miles (in thousands)	506,407
Number of employees (in thousands)	1,209

**Statistics of Railways in the U. S. A., 1949, Interstate Commerce Commission.*

†Short ton of 2,000 lbs.

CANADIAN RAILWAYS, 1950

	Canadian National Railways*	Canadian Pacific Railways*
Capital†	$2,186,133,737	$1,381,246,250
Average mileage of road operated	24,188	17,019
Total operating revenues	$553,831,581	$405,855,900
Total operating expenses	$493,997,079	$349,283,886
Net operating revenues	$59,834,502	$56,572,014
Operating ratio	89·20%	86·06%
Passengers carried	16,820,000	10,541,000
Passenger miles	1,408,000,000	1,242,000,000
Passenger revenue	$39,889,000	$34,927,000
Tons carried (Revenue freight)	81,365,000	53,916,000
Net ton miles of freight (Revenue)	31,988,000,000	22,941,000,000
Freight revenue	$445,780,000	$308,696,000
Train miles—		
Passenger service	§22,387,000	19,601,000
Freight service	§45,459,000	33,426,000
Number of employees	112,874	74,627

**Dominion Bureau of Statistics Publications, Canada, 1923-1950.*

§Excludes Newfoundland District.

†Represents Property Investment account at the end of the year 1949. The figure at the end of 1950 is not available.

SOUTH AFRICAN RAILWAYS, 1949-50*

Total capital expenditure, Railways		£236,717,544§
Mileage of open lines as at 31 March 1950	Miles	13,942†
Total earnings		£76,752,000
Total working expenditure (including depreciation)		£57,132,000
Surplus of earnings over gross working expenditure		£19,620,000
Operating ratio		74·44%
Passenger journeys		255,776,000
Earnings—Passenger		£13,912,000
Total tonnage of commodities railed (excluding livestock)	Tons	‡57,941,315
Earnings—Goods, coal and livestock		£58,014,000
Total train miles run		83,228,000
Total staff at 31 March 1949		186,098§

**Railway Gazette dated May 18, 1951.*

†Includes 580 miles of Rhodesia Railways.

‡Short ton of 2,000 lbs.

§These figures are for 1948-9, as figures for 1949-50 are not available.

AUSTRALIAN RAILWAYS

	New South Wales Railways 1949-50*	Victorian Railways 1949-50*	Queensland Railways† 1949-50*	Western Australian Government Railways 1949-50 (a)
Capital	£181,723,947§	£84,626,736‡	£46,607,730	£27,949,580 (b)
Miles open for traffic on 30 June 1950.	6,113	4,687	6,491	4,252
Earnings	£40,121,758	£22,050,468	£15,531,650	£6,472,049
Working expenses	£39,280,576	£19,983,597¶	£15,468,496	£7,501,395
Net earnings	£841,182	£2,066,871	£63,154	£−1,029,346
Operating ratio	97·90	90·63	99·59	113·72
Passenger journeys	258,182,826	182,101,351	32,185,034	11,671,655
No. of passengers carried one mile.	Not available	1,857,065,122	Not available	175,151,849
Passenger revenue	£13,482,946‖	£7,251,466	£2,738,824	Not available
Tonnage of goods and livestock (Paying).	15,890,467**	9,125,140	6,655,706	2,843,192
No. of tons carried one mile (Paying).	Not available	1,206,767,000	1,182,101,928	426,358,732
Total goods revenue (including livestock).	£21,892,028	£10,816,864	£11,514,132	Not available
Train mileage—				
Passenger	(Statistics discontinued)	11,596,858	6,409,206	6,733,141 (c)
Goods		5,952,631	11,100,013	
No. of staff	59,482	27,268	25,674	11,364

**Annual Reports of respective Railways for the year ending 30 June 1950.*

(a) *Overseas Railways, 1951 (A Railway gazette publication).*

(b) Figures given are for 1948-9, as those for 1949-50 are not available.

(c) Total train miles are given; separate figures for passenger and goods services are not available.

†Exclusive of Uniform Gauge Railway.

‡Includes £30,000,000 written down under Railways (Finance Adjustment) Act, 1936.

¶Excludes expenditure charged to special funds.

§On open lines only. Total capital cost including line under construction is £181,784,728.

‖Represents total coaching earnings.

**Does not include livestock tonnage.

Books and Technical Papers published by the Railway Board.

BOOK

(1) Report by the Railway Board on Indian Railways. Published yearly. Price: Volume I—Report, Rs. 7-10-0 or 12*sh*. Volume II—Statistics, Rs. 10-4-0 or 16*sh*. (1949-50).

(2) Indian Railways, 1949-50. Published yearly. Price: Rs. 2-0-0.

(3) Classified List of Establishment of Indian Railways and Distribution Return of Establishment of all Railways corrected up to 30 June 1950. Price: Rs. 12-2-0.

(4) History of Indian Railways, constructed and in progress corrected up to 31 March 1945. Published sexennially. Price: Rs. 9-2-0 or 14*sh*. 6*d*.

TECHNICAL PAPERS

(5) Over 323 papers have been published by the Technical Section of the Railway Board's Office. The papers comprise:—

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere.

(*b*) Reprints of articles from foreign engineering magazines.

(*c*) Reprints or abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* from the Chief Controller, Standardization, Central Standards Office for Railways, New Delhi. A few of the more important Technical papers are mentioned below:—

Technical Paper.	*Name.*	*Author.*
No. 72.	The design of well foundations for bridges	(Compiled.)
„ 148.	Statistics of Railway working expenditure	G. DEUCHARS.
„ 153.	River training and control on the guide bank system	F. J. E. SPRING.
„ 215.	The Hardinge Bridge over the Lower Ganges at Sara	SIR ROBERT GALES.
„ 219.	Technical education in relation to railways in America	H. L. COLE.
„ 239.	The Central Control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS.
„ 242.	Railway Statistics and the Operating Officer	MAJOR F. H. BUDDEN.
„ 243.	How to judge the prospects of new railways	LT.-COL. L. E. HOPKINS.
„ 244.	Sleeper spacing and the effect of the new Permissible Axle-loads	A. F. HARVEY.
„ 245.	Report of the Indian Railway Bridge Committee on track stresses	
„ 247.	1st and 2nd interim reports of the Indian Railway Bridge Committee on Impact and Revision of the Bridge rules	
„ 249.	Operating Statistics and the Divisional Officer	MAJOR F. H. BUDDEN.
„ 250.	Axle-loads, Wheel Diameter and railheads dimensions	
„ 251.	A. R. E. and maintenance of Way Association's Impact tests on Railway Bridges	(Reprinted.)
	Description of the Planning, Progress, Coaling and Engine Repairs, Schedule System introduced to the G. I. P. Railway Loco. Shops at Parel	F. G. S. MARTIN.
„ 256.	Notes on the preparation of railway projects	H. L. GLASS.
„ 259.	The estimation of Passenger earnings on new projects	A. LINES
„ 261.	Tube wells on the N. W. Railway, 1925	J. WARDON.
„ 262.	Note on steps to be taken to permit of running the future large vehicles on Broad Gauge Railways, 1927	A. I. SLIEGH.
„ 263.	Note on composite Index numbers of Indian Railways	W. G. BARNETT.
„ 264.	Memorandum on Traffic Surveys	R. N. NICOLLS.
„ 266.	Principle of the Absolute Block System, 1929	L. H. KIRKNESS.
„ 267.	Flood Lighting, 1929	H. J. MULLENEUX.
„ 271.	Antiseptic treatment of Pinus Longifolia (Chir) for Railway Sleepers	KAMESAM.
„ 272.	The Stereographic Survey of the Shakagam	MAJOR KENNETH MASON (Reprint).
„ 273.	A Schedule system for the Control of Operations in Workshops, 1929	H. H. SAUNDERS.
„ 275.	An Enquiry into the Preparation of Periodic Financial Returns on the Railways of Great Britain, Egypt, and Palestine, 1929	MAJOR WAGSTAFF.
„ 276.	Investigation into the Strength of Rail joints	H. HOWE AND L. H. SWAIN.
„ 277.	Description of the Cost Accounting Scheme introduced in the Locomotive Workshops at Moghalpura	A. E. HOWELL.
„ 278.	Notes on Tube Railway Construction	H. G. SALMOND.
„ 279.	Report on Track Practice on American and Canadian Railways	A. F. HARVEY.
„ 280.	The Installation of a Production system in the Locomotive Workshops at Moghalpura	A. E. HOWELL.
„ 281.	The Belt System of Repairs introduced in the Loco. Workshops at Kanchrapara	R. DE VERAIRWIN AND J. R. POTTER.

Technical Paper.		Name.	Author.
No.	282.	Note on "Fridera" a composition for reconditioning abraised spike holes in Railway Sleepers	S. KRISHNA AND T. P. GHOSE.
„	283.	Description of a system introduced in the Stores Department of E. I. Railway with appendices	F. G. S. MARTIN AND A. R. A. HARE DUKE.
„	284.	Notes on progressive system of wagon repairs as introduced in N. W. R. shops at Moghalpura	B. S. SINDHU.
„	285.	Notes on the methods by which the provisions in the English Railway Act of 1921 were framed both from the points of view of the Railway Coys. and of Work—the compilers of the Act	E. A. SIMS.
„	286.	Stresses in Fishplates for 90 lbs. Rails (with conclusions affecting the design of standard rail and fishplate sections)	A. M. SIMS.
„	287.	Report on Oil Burners and Wicks for Signal Lamps	H. E. COX.
„	288.	G. I. P. Railway Dynamometer Car, Report No. 11, Train Resistance	C. W. CLARKE.
„	289.	The Hump Yard in India	MAJOR H. W. WAGSTAFF.
„	290.	The Indian Railway Rates' Structure. The case for its simplification. Its existing shortcomings and suggested principles as a basis for its revision	A. W. BECKETT.
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„	292.	Hints on the Construction of a Railway in the plains with special reference to Bengal	K. B. RAY.
„	293.	Simplified Design of Masonry Arch by Elastic Theory	A. VASUDEVAN.
„	294.	Frame Arch Spans for Railway Loadings	H. J. NICHOLAS.
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„	296.	Paint Flaking on Railway Carriages	H. M. R. MORSE.
„	297.	The Maximum Length of Rails as affected by the range of temperature and the design of Rail Joints	A. M. SIMS.
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„	299.	The determination of the permissible speed on Curves	E. PROCTER.
„	300.	Report on investigation into modern methods of introducing Transition Curves economically into existing lines of Railway	R. H. MARTIN.
„	301.	Note on Reconditioning of Curves	R. STRICK.
„	302.	The Coach Painters Handbook and Guide	T. VILLIERS.
„	303.	Wear of Rails on curves and check rails clearances required on curves of 4″ and sharper	A. M. SIMS.
„	304.	Description of the method of Locomotive Repair as carried out in the Kharagpur Workshops of the Bengal Nagpur Railway	L. G. BAILEY.
„	305.	Primary Stresses in Railway Tracks	W. E. GELSON.
„	306.	Creosoted Wooden Railway Sleepers (Ties) in India and elsewhere	C. W. SCOTT.
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„	323.	Stresses in Railway Track	V. VENKATARAMAYYA.

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